JOURNAL

OF A

SECOND VOYAGE FOR THE DISCOVERY OF A

NORTH-WEST PASSAGE

FROM THE ATLANTIC TO THE PACIFIC;

PERFORMED IN THE YEARS 1821—22—23,
IN HIS MAJESTY'S SHIPS

FURY AND HECLA,

UNDER THE ORDERS OF

CAPTAIN WILLIAM EDWARD PARRY, R.N., F.R.S.,
AND COMMANDER OF THE EXPEDITION.

ILLUSTRATED BY NUMEROUS PLATES.

PUBLISHED BY AUTHORITY OF THE LORDS COMMISSIONERS OF THE ADMIRALTY.

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TO

THE RIGHT HONOURABLE THE

LORD VISCOUNT MELVILLE,

FIRST LORD COMMISSIONER FOR EXECUTING THE OFFICE OF LORD HIGH ADMIRAL OF GREAT BRITAIN AND IRELAND, *&c. &c. &c.*

THIS VOLUME,

CONTAINING

THE JOURNAL OF A SECOND VOYAGE FOR THE DISCOVERY OF A NORTH-WEST PASSAGE FROM THE ATLANTIC TO THE PACIFIC,

UNDERTAKEN AND EXECUTED UNDER THE AUSPICES OF HIS LORDSHIP,

IS INSCRIBED

WITH THE GREATEST RESPECT AND GRATITUDE,

BY HIS OBLIGED AND FAITHFUL SERVANT,

WILLIAM EDWARD PARRY.

LONDON, *March*, 1821.

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INTRODUCTION.

THE discoveries made by the Expedition to the North-west in the years 1819-20, being such as to afford a strong presumption in favour of the existence of a passage from the Atlantic to the Pacific in that direction, they served also to point out the most probable means of its accomplishment. His Majesty, on the representation of Lord Viscount Melville, commanded another attempt to be made to effect that object; and the Lords Commissioners of the Admiralty were pleased once more to honour me with the command of an Expedition, to be equipped at Deptford for that purpose. The Hecla having been found well adapted to this service, a second ship of precisely the same class was now selected, and I received my commission for His Majesty's ship the Fury, of three hundred and seventy-seven tons burthen, on the 30th of December 1820. The Hecla was re-commissioned by Captain George Francis Lyon, on the 4th of January following.

The officers who accompanied the former Expeditions having volunteered their services, their Lordships were pleased to re-appoint such as the present establishment would admit. The same preference was likewise given to such of the former crews as were considered fit for this service; and a great number of other seamen also coming forward to enter, the ships were speedily well manned. The Reverend George Fisher, who had accompanied the Expedition to Spitzbergen in 1818, was now, at the recommendation of the President and Council of the Royal Society, appointed Astronomer; and it being in every respect desirable that a Chaplain should form a part of our establishment,

INTRODUCTION.

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Mr. Fisher also received an order to act in that capacity. A second Lieutenant, two able seamen, and a corporal of marines, were added to the former complement; and the distribution of the whole on board each ship will be seen in the annexed Table.

RANK.	ON BOARD THE FURY.		ON BOARD THE HECLA.	
	Officers' Names.	No.	Officers' Names.	No.
Commander	William Edward Parry	1	George Francis Lyon	1
Chaplain and Astronomer	George Fisher	1	. . . . .	. .
Lieutenants	Joseph Nias Andrew Reid	2	Henry Parkyns Hoppner Charles Palmer	2
Surgeon	John Edwards	1	Alexander Fisher	1
Purser	William Harvey Hooper	1	John Jermain	1
Assistant Surgeon	James Skeoch	1	Allan M'Laren	1
Midshipmen Assistant Surveyor	John Henderson Francis Rawdon M. Crozier James Clark Ross (in Fury only) John Bushnan	4	Joseph Sherer Charles Richards William Nelson Griffiths Edward Bird	4
Clerk	James Halse	1	William Mogg	1
Gunner	James Scallon	1	Joseph Macklin	1
Boatswain	William Smith	1	Joseph Lilley	1
Carpenter	George Fiddis	1	Charles Purfer	1
Greenland Master	John Allison	1	George Fife	1
Greenland Mate	George Crawford	1	Alexander Elder	1
Cook	. . . . .	1	. . . . .	1
Leading-Men	. . . . .	4	. . . . .	4
Quarter-Master	. . . . .	1	. . . . .	1
Gunner's-Mate	. . . . .	1	. . . . .	1
Boatswain's-Mate	. . . . .	1	. . . . .	1
Carpenter's-Mate	. . . . .	1	. . . . .	1
Armourer's-Mate	. . . . .	1	. . . . .	1
Sailmaker	. . . . .	1	. . . . .	1
Able Seamen	. . . . .	24	. . . . .	24
MARINES.				
Sergeant	John Spackman	1	Charles Wise	1
Corporal	. . . . .	1	. . . . .	1
Privates	. . . . .	5	. . . . .	5
Astronomer's Servant	. . . . .	1	. . . . .	. .
	Total	60	. . . . .	58

The mode of doubling and fortifying the ships differed in no material circumstance from that before employed, which was found to have afforded the greatest degree of strength, consistently with the requisite attention to the stowage and sailing qualities, of which perhaps any ship is capable. In the exterior equipment of the hulls, the only alterations worthy of notice consisted in increasing the thickness of the doubling to six inches, to give the ships some additional stability; and in making the rudder-cases much larger, in order to allow the rudders more room for shipping and unshipping, whereby that operation is much facilitated. The ships were barque-rigged as before; but in order to increase our resources in stores of every kind, it was suggested by my friend, Captain George Cheyne, that it would be advantageous to adopt the plan of "equalized" fore-masts and main-masts, which had of late been partially introduced into our naval service, at the recommendation of Vice-Admiral Sir Thomas Byam Martin, Comptroller of His Majesty's Navy. An advantage somewhat less obvious than that just mentioned, was the appointment of two ships of exactly the same size in every respect. The idea usually entertained of the necessity of having one of the two vessels thus employed, a small one for the purpose of going into shoaler water, is in my opinion an erroneous one. The examination of shoal and uncertain passages is best conducted in boats, which may be equipped and despatched at five minutes' warning, while a small vessel intended more expressly for this purpose will, after all, draw as much water as the larger one within two or three feet, which difference is in reality but a trifling one. Allowing, however, that some benefit may be derived in this way from the services of a smaller vessel, it is by no means to be put into competition with the inevitable disadvantages

arising from her confined stowage, and her incapacity to receive the crew of the other vessel in case of serious and irreparable injury happening to the latter. Any vessel unable to carry every item of her own resources, must at some period or other of the voyage become a burthen, and, in case of separation, helpless and inefficient; a contingency which there is no necessity for risking. If to what has just been stated be added the advantages, which every seaman will readily appreciate, of each ship being enabled to furnish her consort, on any occasion of loss or damage, with stores of a size and nature exactly suited to her wants, no doubt can, I think, exist of the expediency of having the two ships precisely similar.

So rigidly was this principle adhered to in the equipment of the present Expedition, that, taking into consideration the improbability of both ships sustaining losses in the same articles, our supply of stores might almost be considered as doubled by this arrangement. Thus, for instance, the fore-masts and main-masts were not only "equalized" in each ship, but the dimensions of these, and of every thing belonging to them, were precisely alike in both, so that any article belonging to either of these four masts might be transferred from ship to ship, and at once applied to its proper use, without selection, trial, or alteration of any kind. In the course of the following Narrative, it will be seen what essential service was derived from this plan in the indispensable article of anchors, on which the safety of a ship so often and so entirely depends. I have been thus explicit in stating some of the advantages of this arrangement, from a conviction of the absolute necessity of resorting to it in the equipment of two ships that must necessarily be dependent solely on their own resources, for a long and uncertain period of time.

Some material alterations were made in the interior arrangements, which experience suggested as necessary to the accommodation, health, and comfort of the officers and men. One of the principal of these consisted in applying a thick close lining of cork all round the ships' sides, and on the under part of the upper decks, fore and aft. Shutters and plugs of the same material were also fitted to every window, sky-light, and illuminator, so as completely to surround the inhabited parts of the ships, during the winter months, with this substance. Care being thus taken to prevent the rapid escape of the warmth, recourse was also had to the most effectual means of producing and distributing it. With this view, an apparatus was fixed on the orlop deck of each ship, between the sail-room and the main hatchway, on a plan proposed and executed by Mr. Sylvester, for conveying a current of heated air into the several inhabited apartments. It is described by Mr. Sylvester to "consist of a wrought-iron vessel, about twenty-two inches square, placed upon pillars resting on a cast-iron frame upon the beams of the orlop deck. This vessel, or cockle, was four feet high, close at the top, having an opening in front for the ash-pit and feeding-door, and another behind for the discharge of the smoke into a perpendicular iron tube. The fire-place is within this vessel, and the heat is given to its interior surface. On the outside is an iron covering containing tubes, which approach, nearly at right angles, to the surface of the cockle; these are divided into two portions, one below to receive the cold air, which impinges upon the cockle; the other above, for the discharge of the warm air. These two cavities are separated from each other by a second casing about four feet square below, for the cold air, and terminating in two feet square at the upper-deck, where a part of the warm air is dis-

charged; the rest is conveyed by flues on each side the ship to the cabins of the commander and other officers. The velocity of the warm air current through an aperture two feet square is about five or six feet per second." This stove was intended by the inventor to consume only five pecks, or a bushel and a quarter of coals, by a constant fire throughout the twenty-four hours; but even this quantity was found more than sufficient, except during the most severe part of the second winter. The galley-fire was turned with its face aft, which served to impart much more warmth, as well as a more cheerful appearance, to the lower deck. This plan had not been before adopted because it was understood that the fire would not draw so well; but the reverse of this was, on trial, found to be the case.

I must not here omit to notice a simple, ingenious, and effectual contrivance, now first adopted, for melting snow for our consumption as water, during the winter months, without any additional expense of fuel. The smoke issuing from the galley-fire, and indeed its heat generally, does little or no service beyond the ordinary purposes of cooking to which it is applied. It occurred to Messrs. Lambe and Nicholson to occupy a portion of the aperture through which the smoke ascends, by a metallic vessel or tank of considerable capacity, allowing the smoke to pass freely up on each side of it, and thus to communicate a constant heat to the vessel. In the top of the tank is a large circular hole for supplying it with snow from the upper deck, and in the lower part is inserted a cock for drawing off the water. This apparatus, which was so little in the way that it could not even be seen, produced without any increase of fuel, and with the temperature of the external atmosphere nearly at *zero*, sixty-five gallons of pure water from morning till night; a quantity, of course, more than

sufficient for our whole consumption, had there been any occasion to limit the expense of an article so conducive to health and comfort.

In the account of the preceding voyage, it has been stated that a serious annoyance arose, during the winter, from the accumulation of moisture and ice produced by the condensation of the breath and other vapours in the ships' companies' bed-places. It was determined, therefore, on the present occasion, to do away with these both for the officers and men, substituting for the former cots, and hammocks for the latter. This change proved extremely beneficial, by increasing the ventilation, and promoting the more uniform circulation of warm air, which had before been materially impeded by the number and closeness of the bulkheads.

In the victualling of the ships several alterations were likewise made, which the experience of the last voyage suggested. The principal object being to stow as much as possible, a considerably larger supply than before of the meat preserved in tin cases by Messrs. Gamble and Co., was now furnished, amounting to two pounds per week a man, together with a quart of vegetable or concentrated-meat soups, for a period of three years. For the same reason, the spirits were supplied at thirty-five per cent. above proof, to be reduced, when issued, by means of a hydrometer, to the strength of that usually furnished to the navy; by which expedient the stowage was economized in the proportion of an increase of forty gallons on every hundred. For one-half of the proposed supply of biscuit, kiln-dried flour of the best quality was substituted, to be baked into bread during the winters; three hundred-weight of flour occupying only the same space as one hundred-weight of biscuit. A considerable portion of the fore-hold was also partitioned off into two large binns or bread-rooms, for

the stowage of biscuit in bulk, which method would have been more extensively adopted, but from the fear of thus incurring loss by damage. The rest of the provisions were stowed in new water-tight casks.

The whole of the vinegar was concentrated to one-seventh of the ordinary bulk, as well for economy in stowage, as to avoid loss by freezing. In this last respect, we had also before experienced a serious loss in the still more important article of lemon-juice, in consequence of the bottles bursting in the hold. To obviate this, it was now stowed in small five-gallon kegs charred within, not quite filled, and sufficiently strong to resist the expansion of the acid in freezing. The whole of the juice was squeezed from fresh lemons for our use, and a small quantity of rum added to each keg to assist in keeping it fluid at a low temperature. In addition to lemon-juice and sugar, which form a part of the ordinary diet in His Majesty's Navy, a number of other valuable anti-scorbutics were liberally supplied, consisting of carrots preserved in tin cases by Messrs. Gamble and Co., crystallized lemon acid, cranberries, lemon marmelade, tamarinds, pickled walnuts and cabbage, essence of malt and hops, essence of spruce with molasses, dried herbs for tea, and a quantity of the seed of mustard and cress to be grown as circumstances required. A large supply of potatoes and beet-root was also furnished, which kept tolerably well for the first two or three months after leaving England. As we had found, after living on salt provisions for some time, that beef became less palatable, and was also less digestible than pork, we now dispensed with carrying any salt beef, except a few casks corned expressly for our use as soon as the fresh meat should be expended.

When these arrangements had been completed, for which I am very

materially indebted to the suggestions of my friend Mr. Hooper, purser of the Fury, the ships were effectually victualled and stored for a period of three years. During the progress of their equipment they were occasionally visited by the Lords Commissioners of the Admiralty and the Comptroller of the Navy, and subsequently by Lord Viscount Melville, who was pleased to express his approbation of the various arrangements. As however the ships, when completely stowed, were found to be very deep in the water, it was deemed advisable, to prevent the possibility of risk, that the Expedition should be accompanied by a transport as far as the margin of the ice, in order to relieve them of a part of their lading in crossing the Atlantic; and the Nautilus, of four hundred and five tons, Lieutenant William Scrymgour agent, was appointed by the Navy-Board for this purpose. A portion of the weight was accordingly removed on board the Nautilus till the ships were considered to be in safe trim; and some extra stores were also put into the transport, to enable us to complete the Expedition to the time of her leaving us. Of these perhaps, twenty live bullocks and a quantity of coals (making our whole supply in each ship one hundred and eighteen chaldrons) were not the least important.

A number of valuable chronometers and instruments, of which a list is here subjoined, were embarked on board each ship; and a variety of useful experiments, for which the requisite materials were provided, were suggested by the Council of the Royal Society, to be conducted by Mr. Fisher as circumstances might permit in the course of the voyage:—

List of Instruments, &c., embarked on board each Ship.

	Fury.	Hecla.
Astronomical Clock, by Barrett, the property of Mr. Fisher	1	
Chronometers	13	4
Of which, three of those on board the Fury were the property of Mr. Fisher, one belonging to Captain Parry, and four sent on trial by their respective makers. (See Account of Chronometers in the Appendix.)		
Portable Observatory	1	
Transit Instrument	1	
Forty-inch, triple-object glass, achromatic Telescope, by Dollond	1	
Repeating-circle	1	
Circular Transit, the property of Mr. Fisher	1	
Dipping-Needle, by Dollond	1	
Do. do. by Troughton	1	
Do. do. by Jones	1	
Variation Transit	1	
Variation Needle	1	
Instrument for determining the Magnetic Force, (Captain Kater's)	1	
Azimuth Compasses do.	4	2
Do. do. (Walker's)	1	1
Magnets	2	2
Spirit-levels for Kater's compasses	6	2
Dip-Sectors, (Dr. Wollaston's)	2	2
Macrometer do.	1	
Altitude-Instruments (Captain Kater's)	2	2
Quadrant with level	1	1
Theodolite, large	1	
Do. small	2	
Anglometers	2	2
Circular Protractors	2	
Station-Pointer	1	
Beam-compasses	1	1
Together with every other requisite material for surveying and drawing.		
Artificial Horizons, with mercury	4	2
Thermometers	24	16
Self-registering do. (Six's) with iron cases	6	2
Pyrometer, by Carey	1	
Hygrometers, (De Luc's)	1	1
Do. (Mr. Leslie's)	1	

	Fury.	Hecla.
Photometers (Mr. Leslie's,)	2	2
Hydrometers	3	1
Hydrostatic Balances, one being the property of Mr. Fisher	2	
Water-bottles, (Dr. Marcet's)	2	2
Two-feet telescopes	2	2
Electrometers, with copper-chains	2 sets	
Air-Pump	1	
A case of chemical materials for Mr. Fisher's Experiments		

I cannot conclude this account of our preparations without expressing my sincere thanks to Sir Thomas Byam Martin, Comptroller of the Navy, Commissioner Cunningham, and Captain Hill, Comptroller of the Victualling Depôt at Deptford, for the readiness with which they acceded to and even anticipated my wishes in every thing relating to our complete equipment. To the Navy and Victualling-Boards generally I also feel most highly indebted for the very obliging manner in which they were pleased, on various occasions, to refer to me with a view at once most effectually to execute the commands of the Lords Commissioners of the Admiralty, and at the same time to consult, whenever it lay in their power, the wishes of the Officer commanding the Expedition. Nor can I omit to offer, on my own part, as well as that of the Officers under my command, our best acknowledgments, once more so justly due, to the Officers of Deptford Dock-Yard for the kind assistance received from them in those numberless minor points belonging to their several departments, on which the comfort and accommodation of persons employed on this service so materially depend.

On the return of the Expedition to England the journals, charts, and drawings furnished by every individual in the course of the voyage were

put into my hands, with directions to publish, under the authority of the Lords Commissioners of the Admiralty, an official narrative of our late proceedings. To prevent the delay before occasioned by waiting for the publication of the details relating to geography and natural history, I determined on reserving the whole of these for an Appendix, to form a separate volume. The following account is principally taken from my own journal; but I am indebted to the other officers, and especially to Captain Lyon, for numerous interesting extracts which are distinguished by inverted commas.

The charts accompanying this Narrative were carefully constructed under my inspection on board the Fury by Mr. Bushnan, assistant-surveyor. The original charts, which are on a much larger scale, and on which the angles used in their construction are laid down, have been deposited in the Hydrographical Office at the Admiralty, together with the surveying-books and other documents of that kind containing more in detail the materials used in the survey.

The survey of the coast was entirely carried on as before by astronomical bearings, the geographical position of the various stations being fixed by the mean of the observations of several individuals. From the number and excellence of the chronometers embarked on board the Fury, and the variety of observations used in the occasional correction of their rates, it is hoped that the geography of that portion of the North-Eastern Coast of America, which has been discovered and surveyed by this Expedition, will be found to be fixed with considerable accuracy. For a more detailed statement of the methods employed, in the performance of this essential part of my duty, as well as for some notices respecting the geography of this hitherto unknown corner of the globe, I must refer to the account of the going of the chronometers,

the tables of the several observations, and the memorandum relating to the charts in the Appendix. With the hope of making the charts in some degree interesting to the geologist, as well as to the seaman and geographer, I have inserted in them a brief notice of the geological character of the lands we had an opportunity of examining; and some pains have been taken to deduce and delineate, from the numerous Esquimaux sketches, such parts of the coast as those people are acquainted with, but to which our own efforts have not hitherto enabled us to obtain access. It having been suggested that the delineation of ice upon a chart gives it a confused appearance, while it conveys the idea of a fixed rather than of a constantly moving body, it has now been altogether omitted, except in one or two instances, where the description given of its position in the Narrative may by this means be illustrated and explained.

The sketches of lands were principally made by Mr. Bushnan, such views being selected by myself as appeared most striking, or best calculated to elucidate the descriptions given of the coast. Some were, however, taken by Captain Lyon, to whom the Public is indebted for all the other drawings of every description. Of the merit of these interesting performances it would be presumptuous in me to offer an opinion; but I cannot deny myself the pleasure of bearing testimony to the obliging readiness with which Captain Lyon has always attended to my suggestions on this subject, as well as to the eagerness and assiduity with which he seized on every opportunity of exercising his pencil, which so monotonous and unpicturesque a voyage presented. The drawings were soon after our arrival put into the hands of Mr. Edward Finden, with whose abilities as an artist the Public is already well acquainted; it is hoped that the manner in which they

have been engraved will sufficiently shew the care which has been taken in their execution.

No opportunity has been omitted of procuring and preserving specimens in the several departments of Natural History, of which a considerable collection has been made in each ship, and which will be described in their proper places in the Appendix. The necessary smallness of our establishment rendering it expedient to dispense with the appointment of a professional Naturalist, who has usually formed a part of expeditions of this nature, the sole responsibility in this department of science naturally devolved upon myself. As however I can lay no claim to any of the qualifications requisite in a naturalist, and yet have hopes that our collections will not be altogether wanting in interest, I consider it incumbent upon me, with a view to do justice to the individuals who have assisted me in this way, to give some account of the manner in which that part of my instructions has been executed.

The collections made on board each ship were purposely kept separate, with the intention of providing against accidents happening to either; except on one or two occasions, where only a single specimen of any animal was obtained, in which case it was transferred to the Fury. The collection of the animal kingdom formed by Captain Lyon has afforded additional interest from the drawings that accompanied them, wherein the colours most liable to fade were faithfully delineated from specimens just killed. For the specimens obtained on board the Fury I am necessarily indebted to the zeal and industry of the several Officers of that ship, who have at all times rendered me their best assistance in promoting this object. I must however particularly express the acknowledgments which I consider due to Mr. Ross who, from the commencement of the voyage, undertook in addition to his other

duties, to superintend the preservation of stuffed specimens of birds and other animals; a task requiring a degree of taste as well as of skill and attention, which perhaps persons accustomed to these matters can alone duly appreciate. The public collection of plants and minerals on board the Fury has been in great part made and entirely arranged by Mr. Halse, to whose industry and attention in these departments for several years past I am particularly desirous to do justice. So general however have the taste for collecting and the skill in preserving become, among the individuals employed on these Expeditions, that much additional interest has been derived from an examination of the distinct collections of plants and minerals made by several of the officers, and particularly from that of Mr. Edwards, whose notes on the Natural History of these regions have added much valuable information on this subject. Some skeletons of animals have been prepared for the Museum of the College of Surgeons by Mr. Skeoch, among which those of a wolf and an Esquimaux dog will perhaps not be considered the least interesting, as shewing the comparative anatomy of those two animals. Soon after the arrival of the ships in the river Thames, the public Collections of Subjects of Natural History were put into the hands of three gentlemen well qualified to describe them. I need only mention the names of Professor Jameson, Professor Hooker, and Dr. Richardson, to assure the public how much justice will be done to their description; but I cannot omit this opportunity of offering my warmest thanks to these gentlemen for the kind and handsome manner in which they did me the favour to undertake this task.

A monthly Abstract of the Meteorological Register is inserted in its proper order in the course of the narrative, that method having been considered most convenient for reference, on a subject necessarily

forming so large and constant a portion of the interest of a polar voyage. In the journal from which these abstracts were made, the temperature of the air and of the sea-water was noted every two hours, and the height of the mercury in the barometer every four hours, throughout the voyage; and the abstracts were carefully and separately arranged by Lieutenant Nias and Mr. Ross*. The whole of the temperatures were registered by Fahrenheit's thermometer, and the signs + and – signify above or below *zero* of that scale. When neither of these signs is attached, the temperature is to be understood as positive, or above *zero*, except in those columns of the abstracts where a continued series of low temperatures occurs. To avoid needless repetition also in the course of the Narrative, it may here be added that the whole of the bearings are the *true* ones, the Dips of the Magnetic Needle *North*, the Latitudes *North*, and the Longitudes *West* of the meridian of Greenwich, unless otherwise expressly noticed at the time.

The temperature of the sea below the surface was sometimes obtained by Six's self-registering thermometer attached to the deep-sea lead; but more commonly (in consequence of the frequent failure of that instrument when exposed to sudden changes) by bringing up some water in the bottle contrived by Dr. Marcet, and already described in the Introduction to the Narrative of the former Voyage. This simple and useful apparatus was now somewhat improved by a strong spring enclosed within the box, and obliging the bolt, in whatever position it might be placed, to close the apertures as soon as the catch was released, instead of trusting to its own weight as before.

* I omitted to mention, in my account of the Voyage of 1819-20, that the Meteorological Register was then kept in a similar manner.

In describing the Esquimaux inhabiting the sequestered and hitherto unknown corner of the American Continent, which we have recently visited, I have aimed rather at faithfulness of delineation than at height of colouring, studiously avoiding the mention of any fact of whose accuracy the slightest doubt remained upon my mind. Of the latter class are numerous pieces of information obtained in a cursory way from the Esquimaux, which, however, our imperfect knowledge of their language did not enable us thoroughly to understand, and which almost daily experience of our former misapprehensions subsequently taught us to receive with greater caution and distrust. In attempting a description of the manners, disposition, and general character of these people, it has been my anxious desire "nothing to extenuate, nor set down aught in malice," but to present, as far as it goes, a faithful and impartial sketch; divested on the one hand of the too flattering impression at first received from the extreme quietness of their demeanour, and on the other, of the feelings of annoyance occasioned by our subsequent acquaintance with the less favourable features in their character. In the more important, though less difficult task of relating the proceedings of the Expedition, with reference to its primary objects, my endeavours have been exclusively directed to the attainment of accuracy and plainness, omitting nothing, however, which appeared to me likely to afford interest or information, and avoiding every minute detail but what seemed absolutely necessary for explaining my views, or otherwise elucidating the subjects under consideration.

That our efforts have not hitherto been crowned with greater success, cannot fail to be a matter of extreme disappointment, as well as of sincere though unavailing regret; but I feel it a duty to state, that

had our progress been in any degree proportionate to the exertions of those under my command, there would ere this have been nothing left to regret, and but little to accomplish; and I am happy therefore thus publicly to express the high sense I entertain of the laudable zeal and strenuous exertions uniformly displayed by Captain Lyon, the officers, seamen, and marines, of both the ships engaged in this service. Of the exemplary conduct of the men it has been my good fortune to command on this occasion, I cannot indeed speak too highly; it has been a happiness to their officers and a credit to themselves. It was highly gratifying to observe the eager assiduity with which, during two successive winters of long and tedious confinement, they followed up the more sedentary occupations of learning to read and write, with which they were furnished; and it is, I confess, with no ordinary feelings of pleasure that I record the fact, that on the return of the Expedition to England, there was not an individual belonging to it who could not read his Bible.

Of the value of Mr. Fisher's labours in those departments of science to which his attention was particularly directed, I cannot pretend to form a competent opinion, and his account of them now preparing in the Appendix will, I doubt not, speak for itself; but I have the most sincere pleasure in offering my testimony to the unabated zeal and perseverance with which, under circumstances of no ordinary difficulty from climate, and in spite of frequent ill health, he continued to pursue every object which could tend to the improvement of Astronomy and Navigation, and to the interests of Science in general.

EXPLANATION OF TECHNICAL TERMS

PECULIAR TO THE NAVIGATION AMONG ICE;

And occasionally made use of in the course of the following Narrative, where they are distinguished by inverted commas.

Bay-ice.—Ice newly-formed upon the surface of the sea.

Beset.—The situation of the ship when closely surrounded by ice.

Bight.—An indentation in a floe of ice, like a bay, by which name it is sometimes called.

Blink.—A peculiar brightness in the atmosphere, often assuming an arch-like form, which is generally perceptible over ice or land covered with snow. The blink of land, as well as that over *large* quantities of ice, is usually of a yellowish cast.

Bore.—The operation of "boring" through loose ice consists in entering it under a press of sail, and forcing the ship through by separating the masses.

Calf.—A mass of ice lying under a floe near its margin, and when disengaged from that position, rising with violence to the surface of the water. See *Tongue.*

Clear Water.—Any part of the sea unincumbered with ice.

Crow's-Nest.—A small circular house like a cask, fixed at the mast-head, in which the look-out man sits, either to guide the ship through the ice, or to give notice of whales.

Dock.—In a floe may be natural or artificial; the former being simply a small "bight," in which a ship is placed to secure her from the danger of external pressure, and the latter, a square space cut out with saws for a similar purpose.

Field.—A sheet of ice generally of great thickness, and of too great extent to be seen over from a ship's mast-head.

Flinching.—The operation of stripping a sea-animal of its skin and blubber.

Floe.—The same as a field, except that its extent can be distinguished from a ship's mast-head. A "bay-floe" is a floe of ice newly formed.

A Hole or ***Pool*** of water.—A small space of "clear water," when the rest of the sea is covered with ice.

Land-ice.—Ice attached to the land, either in floes or in heavy grounded masses lying near the shore.

Lead.—A channel through the ice. A ship is said to "take the right lead" when she follows a channel conducting her into a more navigable sea, and *vice versâ*.

Making-off blubber.—The operation of putting it into casks.

Nipped.—The situation of a ship when forcibly pressed by ice.

Pack.—A large body of ice consisting of separate masses lying close together, and whose extent cannot be seen.

Pancake-ice.—Newly formed ice, assuming the peculiar conformation of numberless patches of "sludge," and giving the surface of the sea the appearance of a handsome pavement.

Patch of Ice.—The same as a pack, but of small dimensions.

Sailing-ice.—Ice of which the masses are so much separated as to allow a ship to sail among them.

Sallying a ship.—The operation of causing her to roll, by the men running in a body from side to side, so as to relieve her from the adhesion and friction of the young ice around her.

Sludge.—Ice of the consistence of thick honey, offering little impediment to a ship while in this state, but greatly favouring the formation of a "bay-floe."

Stream.—A long and narrow, but generally continuous collection of loose ice.

Tongue.—A mass of ice projecting under water, from an iceberg or floe, and generally distinguishable at a considerable depth in smooth water. It differs from a "calf" in being fixed to, or a part of, the larger body.

Water-sky.—A dark appearance in the sky, indicating "clear water" in that direction, and forming a striking contrast with the "blink" over land or ice.

Young-ice.—Nearly the same as "bay-ice," but generally applied to ice more recently formed than the latter.

OFFICIAL INSTRUCTIONS.

By the Commissioners for executing the Office of Lord High Admiral of the United Kingdom of Great Britain and Ireland, &c. &c.

LORD Viscount Melville having communicated to the King the proceedings of the late Expedition into the Arctic Seas, and His Majesty having been graciously pleased to express his commands that a further Expedition should be fitted out, for the purpose of renewing the attempt to discover a passage by sea between the Atlantic and Pacific Oceans, and of ascertaining the geography of the Northern boundaries of the American Continent, we have thought proper to appoint you to the command of the Expedition; and you are hereby required and directed to put to sea in His Majesty's ship Fury under your command, together with His Majesty's ship Hecla, whose commander has been placed under your orders, and taking also with you the Nautilus Transport, which we have directed the Navy Board to place at your disposal (for the purpose of carrying a proportion of your provisions and stores across the Atlantic and Davis' Strait,) you are to proceed as quickly as may be consistent with every precaution to avoid any risk of your parting company from either the one ship or the other, towards, or into, Hudson's Strait, until you shall meet with the

ice, when you are to take the first favourable opportunity of clearing the Nautilus Transport of the provisions and stores she is charged with for the Fury and Hecla; and having so done you are to send the said transport back to England, so as to prevent her incurring any risk of receiving injury amongst the ice, reporting by that opportunity your proceedings to our Secretary for our information.

After having so cleared and despatched the Transport you are, with the two ships of His Majesty under your orders, to penetrate to the westward through Hudson's Strait, until you reach, either in Repulse Bay or on other part of the shores of Hudson's Bay, to the north of Wager River, some part of the coast which you may feel convinced to be a portion of the *Continent* of America. You are then to keep along the line of this coast to the northward, always examining every bend or inlet which may appear to you likely to afford a practicable passage to the westward, in which direction it is the principal object of your voyage to endeavour to find your way from the Atlantic into the Pacific Ocean.

In the event of your having consumed the open weather in the examination of the northern boundaries of Hudson's or Cumberland's Straits, and of your having, at the close of the season, returned into Davis' Strait or Baffin's Bay; or if you should have made no considerable progress to the westward or northward in any inlet you may have found, it will be for you to consider, under all the circumstances of the case, whether it may not be expedient that you should return to England to replenish, refit, and refresh, rather than winter on a part of the coast which you might reach again next season as early as would be necessary for prosecuting your further inquiries. The judgment which you have shewn in the conduct of the late Expedition and the experience which you have acquired, induce us to trust this

point to your own discretion, on a view of all the different circumstances which may exist at the time when your determination is to be formed.

Should you be so successful as to find a practicable passage from the one sea to the other, you are to make the best of your way in accomplishing that object without stopping to examine the north coast of America, or for any other object not of imperious importance; but when the ships are checked in their progress by ice, or other unavoidable circumstances, you will take every opportunity of examining the coasts you may be near, and making all useful observations relating thereto.

Should you happily reach the Pacific you are to proceed to Kamschatka, (if you think you can do so without risk of being shut up by the ice on that coast,) for the purpose of delivering to the Russian Governor duplicates of the journals and other documents which the passage may have supplied, with a request that they may be forwarded over land to St. Petersburgh, to be conveyed from thence to London.

From Kamschatka you will proceed to the Sandwich Islands or Canton, or such other place as you may think proper, to refit the ships and refresh the crews; and if during your stay at such place a safe opportunity should occur of sending papers to England, you should send duplicates by such conveyance. And after having refitted and refreshed, you are to lose no time in returning to England by such route as you may deem most convenient.

It may happen that your progress along the north coast of the American Continent may be so slow as to render it desirable that, if you should not be able to accomplish your passage into the Pacific earlier than the autumn of 1824, you should be assured of finding a

depôt of provisions at that period in the most advanced situation to which they can safely be conveyed. In the event then of our not receiving from you such intelligence as may render the measure unnecessary, we shall, about the close of the year 1823, direct the Commander-in-Chief on the South American station to despatch a vessel with a supply of provisions and stores, so as to be at Behring's Strait about August or September, 1824. The commander of this vessel will be directed to make the best of his way round Cape Prince of Wales, where he may expect, as we are informed, to find an inlet in latitude 68° 30′, in which Captain Kotzebue is stated to have found anchorage a few years since. He will be directed to lie in that anchorage, or in the nearest good anchorage he may find to that latitude; and he will be ordered to erect, in the most prominent and visible situation, a flagstaff for your direction. As it is possible that you may touch at the Sandwich Islands, this Officer will be directed to call at Owhyhee, in order that if you should have passed to the southward, he may not be put to the inconvenience of going on to Cape Prince of Wales.

Whenever the season shall be so far advanced as to make it unsafe to navigate the ships, on account of the long nights having set in, and the sea being impassable on account of ice, you are, if you should not return to England, to use your best endeavours to discover a sheltered and safe harbour, where the ships may be placed in security for the winter, taking such measures for the health and comfort of the people under your command, as the materials with which you are supplied for housing in the ships, or hutting the men on shore, may enable you to do. And when you find it expedient to resort to this measure, if you should meet with any inhabitants, either Esquimaux or Indians, near

the place where you winter, you are to endeavour, by every means in your power, to cultivate a friendship with them, by making them presents of such articles as you may be supplied with, and which may be useful or agreeable to them. You will, however, take care not to suffer yourself to be surprised by them, but use every precaution, and be constantly on your guard against any hostility.

You will endeavour to prevail on them by such reward, and to be paid in such manner as you may think best to answer the purpose, to carry to any of the settlements of the Hudson's Bay or North-West Companies, an account of your situation and proceedings, with an urgent request that it may be forwarded to England with the utmost possible despatch.

We deem it right to caution you against suffering the two vessels placed under your orders to separate, except in the event of accident or unavoidable necessity; and we desire you to keep up the most unreserved communications with the Commander of the Hecla, placing in him every proper confidence, and acquainting him with the general tenor of your orders, and with your views and intentions, from time to time, in the execution of them; that the service may have the full benefit of your united efforts in the prosecution of such a service, and that, in the event of unavoidable separation, or of any accident to yourself, Captain Lyon may have the advantage of knowing, up to the latest practicable period, all your ideas and intentions relative to a satisfactory completion of the undertaking.

We also recommend that as frequent an exchange take place as conveniently may be, of the observations made in the two ships; that any scientific discovery made by the one be as quickly as possible communicated for the advantage and guidance of the other, in making their

future observations, and to increase the chance of the observations of both being preserved.

We have caused a great variety of valuable instruments to be put on board the ships under your orders, of which you will be furnished with a list, and for the return of which you will be held responsible; and we have also, at the recommendation of the President and Council of the Royal Society, ordered to be received on board the Fury the Rev. Mr. Fisher, who is represented to us as a gentleman well skilled in Astronomy, Mathematics, and various branches of knowledge, to assist you in making such observations as may tend to the improvement of Geography and Navigation, and the advancement of science in general.

Amongst other subjects of scientific inquiry, you will particularly direct your attention to the variation and inclination of the magnetic needle, and the intensity of the magnetic force; you will endeavour to ascertain how far the needle may be affected by the atmospherical electricity, and what effect may be produced on the electrometic and magnetic needles on the appearance of the Aurora Borealis. You will keep a correct register of the temperature of the air, and of the sea at the surface, and at different depths. You will cause frequent observations to be made for ascertaining the refraction, and what effect may be produced by observing an object, either celestial or terrestrial, over a field of ice, as compared with objects observed over a surface of water: together with such other meteorological remarks as you may have opportunities of making. You are also to attend particularly to the height, direction, and strength of the tides, and to the set and velocity of the currents; the depth and soundings of the sea, and the nature of the bottom, for which purpose you are supplied with an

instrument better calculated to bring up substances than the lead usually employed for this purpose.

And you are to understand, that although the finding a passage from the Atlantic to the Pacific is the main object of this Expedition, and that the ascertaining the Northern boundary of the American Continent is the next, yet that the different observations you may be enabled to make, with regard to the magnetic influence, as well as such other observations as you may have opportunities of making in Natural History, Geography, *&c.* in parts of the globe so little known, must prove most valuable and interesting to science; and we therefore desire you to give your unremitting attention, and to call that of all the Officers under your command, to these points, as being objects of the highest importance. And you are to direct Mr. Fisher to be particularly careful to keep an accurate register of all the observations that shall be made, precisely in the same forms, and according to the same arrangement, that were followed by Captain Sabine on the late voyage; —into whose charge are also to be given the several chronometers with which you have been supplied.

And although, as already specified, you are not to be drawn aside from the main object of the service on which you are employed, as long as you may be enabled to make any progress, yet, whenever you may be impeded by the ice, or find it necessary to approach the coasts of the continent or islands, you are to cause views of bays, harbours, headlands, *&c.* to be carefully taken, the better to illustrate the charts you may make, and the places you may discover, on which duty you will be more particularly assisted by Captain Lyon and Mr. Bushnan, Assistant Surveyor.

You are to make use of all the means in your power to collect and

preserve such specimens of the Animal, Mineral, and Vegetable Kingdoms, as you can conveniently stow on board the ships; salting in casks the skins of the larger animals, as well as causing accurate drawings to be made to accompany and elucidate the descriptions of them; in this, as well as in every other part of your scientific duty, We trust that you will receive material assistance from Mr. Fisher, and the other Officers under your command.

In the event of any irreparable accident happening to either of the two ships, you are to cause the Officers and Crew of the disabled ship to be removed into the other, and with her singly to proceed in prosecution of the voyage, or return to England, according as circumstances shall appear to require; understanding that the Officers and Crews of both ships are hereby authorized and required to continue to perform their duties according to their respective ranks and stations, on board either ship to which they may be so removed, in the event of an occurrence of this nature. Should unfortunately your own ship be the one disabled, you are in that case to take the command of the Hecla; and in the event of any fatal accident happening to yourself, Captain Lyon is hereby authorized to take the command of the Expedition, either on board the Fury or Hecla, as he may prefer, placing the Officer who may then be next in seniority to him, in command of the second ship; also in the event of your inability, by sickness or otherwise, to continue to carry these Instructions into execution, you are to transfer them to Captain Lyon, or to the surviving Officer then next in command to you, employed on the Expedition, who is hereby required to execute them in the best manner he can for the attainment of the several objects in view.

His Majesty's Government having appointed Captain Franklin to the command of an Expedition to explore the northern coast of North

America, from the mouth of the Coppermine River of Hearne, eastward, it would be desirable, if you should reach that coast, that you should mark your progress by erecting a flagstaff in a few of the most convenient and distinguishable points which you may successively visit, and you are to bury at the foot of each staff a bottle, containing such information as may be useful to Captain Franklin, and such further particulars respecting your own proceedings as you may think proper to add; corresponding instructions having been given to Captain Franklin to leave a similar notice at any convenient part of the coast which he may discover between the mouth of the said river and the eastern part of North America. And in the event of your getting to the westward of Hearne's river, you should occasionally do the same with a view to multiply the chances of our hearing of your progress. In the event of your finding Captain Franklin and his party on any part of the coasts of America, (which being possible, you should look out for and attend to any signals that may be displayed on the shores,) you are, if he should wish it, to receive him and his party into His Majesty's ships under your command, bearing them as supernumeraries for victuals until your return, or you have other means of forwarding them to England.

You are, whilst executing the service pointed out in these instructions, to take every opportunity that may offer of acquainting our Secretary, for our information, with your progress: and on your arrival in England, you are immediately to repair to this office, in order to lay before us a full account of your proceedings in the whole course of your voyage; taking care, before you leave the ship, to demand from the Officers, Petty Officers, and all other persons on board, the logs and journals they may have kept, together with any drawings or charts

they may have made, which are all to be sealed up; and you will issue similar orders to Captain Lyon and his Officers, *&c.*; the said logs, journals, or other documents to be thereafter disposed of as we may think proper.

Given under our hands this 27th of April, 1821.

(Signed) G. Cockburn,
H. Hotham,
G. Clerk.

By Command of their Lordships,

(Signed) J. W. Croker.

To

William Edward Parry, Esq., Commander of His Majesty's Vessel the Fury, *at Deptford.*

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logs,
may

SECOND VOYAGE OF DISCOVERY.

SECOND

VOYAGE FOR THE DISCOVERY

OF A

NORTH-WEST PASSAGE.

CHAPTER I

PASSAGE ACROSS THE ATLANTIC—REMOVAL OF STORES FROM THE NAUTILUS TRANSPORT, AT THE MARGIN OF THE ICE—DEPARTURE OF THE NAUTILUS FOR ENGLAND—ENTER THE ICE IN *HUDSON'S STRAIT*—PERILOUS SITUATION OF THE HECLA, AND LOSS OF HER ANCHOR—MEET WITH THE HUDSON'S-BAY SHIPS—PASSAGE UP THE STRAIT, AND COMMUNICATION WITH THE NATIVES INHABITING THE NORTHERN SHORES—PASS THE *TRINITY ISLANDS* OF FOX—ARRIVAL OFF SOUTHAMPTON ISLAND, WHERE THE RESEARCHES OF THE EXPEDITION COMMENCE.

THE FURY, HECLA, and NAUTILUS Transport, were completed for sea towards the latter part of the month of April, and, on the 29th, at 10 A.M., the wind being from the eastward, with every appearance of its continuing, the Fury was taken in tow by the Eclipse steam-boat, which vessel had before taken us down the river on a similar occasion. At two P.M., the Fury was moored to the buoy at Northfleet, and the Eclipse returned to Deptford for the other ships. The Hecla reached the moorings on the following day, and the Nautilus on the 1st of May. The guns and ordnance-stores were here received on board, after which the ships immediately proceeded to the Little Nore where they anchored on the 3d. I received my final instructions from the Lords Commissioners of the Admiralty on the 4th, and set out for Sheerness on the following day. On the 7th, the ships were visited by Rear-Admiral Sir John Gore, from whom we had, on this, as on the former occasion, received every attention and assistance, which the greatest personal kindness,

1821. April. Sun. 29.

Mon. 30. May. Tues. 1.

Mon. 7.

1821. May. and the most lively interest in our success, could suggest. On the same day, the ships' companies received their arrears of river-pay, and three months' wages in advance; after which they provided themselves with a large stock of warm clothing, according to a list previously given out. The crews were, however, so well acquainted with the nature of the service on which they were about to be employed, that they took good care to provide an abundant supply of every thing of that kind.

Previously to leaving the Nore, I furnished Captain Lyon with a complete copy of my Instructions from the Lords Commissioners of the Admiralty, accompanied by an order containing some general regulations; and I also appointed certain places of rendezvous, to ensure the meeting of the three ships at the margin of the ice, in case of unavoidable separation in crossing the Atlantic.

Tues. 8. On the 8th, at half-past three A.M., we weighed from the Little Nore, and, being favoured with a fresh breeze from the southward and westward, passed through Hoseley Bay at noon, when, the weather becoming thick, I was induced to run out at the back of the sands, lest we should not be able to distinguish the lights clearly at night. The wind soon after backing more to the westward, prevented our getting in with the land, for the pur-
Wed. 16. pose of sending away our pilots, till the 16th when, being off Buchaness, they were put into a sloop bound to Leith, and our despatches and letters forwarded by the same opportunity.

Frid. 18. On the morning of the 18th, being off Copinsha, one of the Orkney Islands, and the wind continuing fresh from the northward, which prevented our getting round them in that direction, pilots were taken on board to run the ships through the Pentland Firth. In the course of the afternoon, however, while standing through, the wind backed to the westward of north, with heavy squalls, which would not have allowed us to clear the land with the ebb-tide. I determined, therefore, on anchoring in Widewall harbour, which we did at four P.M., in six fathoms, and immediately set
Sat. 19. about completing our water. On the following day, I addressed a letter to the Secretary of the Admiralty, acquainting him with the proceedings of the Expedition up to this date.

Tues. 22. The wind remaining nearly in the same quarter for several days after our arrival, it was not until the 22d that we were enabled to weigh and stand to the westward, through the Firth. As we proceeded, however, the wind gradually veered to the N.W., with a considerable head-swell, which

prevented our clearing the land; we accordingly bore up and reached the harbour of Long-Hope about midnight. We were here once more detained by strong and unfavourable winds, which continued with little intermission till the morning of the 30th, when a light air springing up from the eastward, we weighed, at 8.20 A.M., and ran between the islands to the northward. At one, P.M., the pilots left us off Hoy Head, when all sail was made to the westward. 1821. May.

The latitude of the Martello Tower upon Hackness Point, at the entrance of Long-Hope harbour, is, by our observations, 58° 48′ 51″; its longitude, by chronometers, 3° 00′ 09″ W.; and the variation of the magnetic needle, 26° 58′ 30″, westerly. The holding-ground is here excellent: this indeed is one of the best harbours in the Orkneys, and perhaps in the world, being capable of containing a very large fleet of ships in perfect security. In Widewall harbour, which is small and affords less shelter, we found the ground more loose; it is probably in some parts rocky, as our anchors came up so covered with weeds, that we could with difficulty fish them. The latitude of the south point of the entrance, by a single observation, is 58° 48′ 25″; the longitude by chronometers, 2° 55′ 27″; and the variation, 27° 32′ 08″, westerly.

At ten P.M., we passed two miles to the southward of the remarkable islets called the Stack and Skerry, having steered N.W. by W., by compass, (or N. 88° W. true,) from Hoy Head, from which headland they are certainly distant fourteen or fifteen leagues, instead of ten, as laid down in most of the charts. Passing in sight of the islands of Bara and Rona, we continued our course, with a fresh and favourable breeze, to the westward.

On the 7th of June, being in lat. 57° 30′, long. 34° 29′, we tried the current, by a boat moored in the usual manner with an iron pot, but none was perceptible. On this and the preceding day we saw, for the first time, large flocks of Shearwaters, *(procellaria puffinus,)* called by the Greenland sailors Cape hens, as being usually met with only in the neighbourhood of Cape Farewell. The birds we met with about the Cape were, besides shearwaters which disappeared immediately after passing it, the fulmar petrels, *(procellaria glacialis,)* kittiwakes, *(larus rissa,)* looms, *(uria brunichii,)* dovekies, *(colymbus grylle,)* rotges, *(alca alle,)* a few terns, *(sterna hirundo,)* and a flock or two of ducks, of which the species was uncertain. June. Thurs. 7.

On the 8th at noon, being in lat. 57° 33′, long. 37° 48′, the tempera- Frid. 8.

1821. June. ture of the sea-water, at four hundred and sixty fathoms below the surface, was found, by Six's thermometer, to be 40°.7, that of the surface being 45½°, and of the air, 46½°. A number of bottle-nose whales were about the ships.

Sat. 9. On the 9th, we saw a bird much resembling a fulmar petrel in shape, but differing in plumage from any we had before remarked, its general colour being a dark-brown, with a white stripe extending completely across the wings, along the tips of the wing-covers, both above and below.

After entering Davis' Straits, we had for several days variable and unsettled weather, the wind blowing principally from the southward, with a heavy swell from the same quarter. On the 14th, we met with the first iceberg, being in lat. 60° 48′, long. 53° 13′. On the following day, the temperature of the sea, at the depth of four hundred and sixty fathoms, was found, by Six's thermometer, to be 40°, that of the surface being 40½°, and of the air 41½°. While in the entrance of Davis' Strait, we met with two or three small pieces of drift-wood on different days; they appeared to be of fir, and to have been a considerable time in the water, though not at all worm-eaten.

Thur. 14.

Mon. 18. Soon after daylight, on the 18th, we passed a quantity of loose ice, such as usually occurs at a little distance from the main body. We came to the edge of the "pack" in the course of the forenoon and, finding here a considerable swell, tacked off and on till the water should become smoother, being at noon in lat. 60° 50′ 12″, long. 62° 08′ 30″. On the day before we made the ice, we had observed a great number of looms as well as fulmar petrels about the ships. On reaching its margin, we found, besides these, large flocks of phalaropes, *(phalaropus platyrinchus,)* rotges, dovekies, and one or two of snow-buntings, *(emberiza nivalis,)* the latter attended by their enemy the hawk, *(falco peregrinus)*. The temperature of the sea-water had decreased pretty gradually from 40° on the morning of the 17th, to 34° on that of the 18th, previously to our making the ice; after which it soon fell to 32° and 30°, being its usual standard in the neighbourhood of a body of ice, during the summer months.

Having now reached the situation in which I was directed, by my instructions, to clear the Nautilus of our stores, I was desirous immediately to commence this work, in order to be ready for the opening of the ice in Hudson's Strait, which might be expected to occur in a few days. There being a number of bergs in sight, I determined to anchor the ships to

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Sea, during the Month of *June*, 1821.

Day	Place.	Temperature of Air in shade.			Sea Water at surface.			Barometer.			Prevailing Winds.		Prevailing Weather.
		Maximum.	Minimum.	Mean.	Mean Temp.	Specific Gravity	Temp. when weighed	Maximum.	Minimum.	Mean.	Direction.	Velocity	
		°	°	°	°		°	inches	inches	inches			
1	Crossing the Atlantic from Orkney to Davis' Strait.	+53	+49	+51.50	49.33	1.0262	+62	30.20	29.90	30.068	SE	modt.	fine
2		53	50	51.25	49.04	1.0270	62	29.91	29.78	29.837	SSE	modt.	hazy and rain
3		53	49	51.08	49.71	1.0280	62¼	29.75	29.70	29.717	EbS	modt.	ditto
4		53½	50	50.96	50.50	1.0279	59.7	29.67	29.40	29.535	E¼S	modt.	ditto
5		52	49	50.92	49.54	1.0280	59	29.45	29.37	29.398	EbN	modt.	ditto
6		50	49	49.33	48.00	1.0275	59½	29.93	29.48	29.710	North	modt.	hazy
7		51	48½	49.37	47.29	1.0279	59.4	30.03	29.90	29.963	AM. NbE PM. SE	light	foggy
8		48	44	46.12	44.79	1.0280	58	30.00	29.68	29.813	South	modt.	hazy and rain
9		45	40	42.58	41.83	1.0274	57	29.68	29.59	29.627	SSW	fresh	rain in squalls
10		43½	41	41.92	39.96			29.98	29.78	29.887	SW	modt.	cloudy
11		42	38	40.33	40.00	1.0273	55	29.48	28.97	29.130	AM. SE PM. SSW	strong	rain in squalls
12		41½	38	40.42	39.92	1.0273	54¾	29.72	29.31	29.558	SWbW	fresh	rain in squalls
13	At the entrance to Davis' Strait.	41½	39	40.75	40.42	1.0275	53	29.29	28.96	29.035	AM. SE PM. SSW	light	hazy and rain
14		39	36	38.25	39.58	1.0271	53	29.66	28.98	29.320	NWbW	strong	hazy and rain
15		42	37	39.42	39.58			29.84	29.72	29.775	SSW	light	cloudy
16		45	39	40.96	40.25	1.0271	53	29.71	29.64	29.684	SWbW	light	fine
17		40½	35	38.25	38.71			29.54	29.13	29.302	SEbE	fresh	rain in squalls
18	Close to the margin of the ice, off the entrance to Hudson's Strait.	35	31	33.50	31.46			29.74	29.23	29.570	AM. NNE PM. NW	fresh	hazy, rain & snow
19		35	31	32.75	32.04			29.87	29.78	29.832	West	modt.	fine
20		38	30	32.83	31.79			30.03	29.88	29.982	West	light	fine
21		39	33	35.42	32.00			30.10	30.03	30.053	West	modt.	cloudy
22		36	31	33.17	31.96			30.21	30.11	30.167	WSW	modt.	hazy
23		36	32	34.33	33.12			30.00	29.11	29.443	SE	strong	hazy, snow, rain and hail
24		37	32	34.33	32.79			29.67	29.20	29.522	WSW	fresh	fine
25		37	33	34.87	34.50			29.92	29.50	29.670	SW	strong	fine and clear
26		36	33	34.46	33.54			30.16	30.00	30.105	SSW	light	fine and clear
27		38	34	35.71	33.33			30.12	29.92	29.973	SSE	modt.	foggy
28		38½	36	37.33	34.71			29.95	29.89	29.908	SSE	fresh	foggy and rain
29		39	33	37.12	35.38			30.15	29.95	30.070	WNW	light	cloudy
30		38	30	34.21	35.62			30.23	30.17	30.192	NNW	modt.	cloudy
		53½	30	40.45	39.36			30.23	28.96	29.729			

1821. July. one of them for this purpose, whenever the wind and weather would permit. So unfavourable, however, did these prove, and so often were we interrupted by the closing of the ice upon the ships, that little progress could be made in our work for several days. The difficulty of accomplishing this was considerably increased by the attention necessary to keep the Nautilus from injury, which, however, the strenuous exertions of Lieutenant Scrymgour and his people happily effected, and the removal of the stores was completed by the evening of the 30th; when, having sent our despatches and letters on board the Nautilus, and made every other arrangement, I gave Lieutenant Scrym-
Sun. 1. gour his instructions to return to England; and at one A.M. on the 1st of July, he parted company, while the Fury and Hecla stood in towards the ice. A whaler, deeply laden, and apparently homeward bound, was at this time in sight to the eastward.

Towards noon we made the ice, being in lat. 62° 08′ 37″, long. 62° 22′ 49″, and ran along its edge, keeping as much to the westward as the trending of it would allow. We thus continued to run through "sailing ice" all
Mon. 2. night, till, having by the chronometers nearly reached the longitude assigned to Resolution Island, and the weather becoming thick, we hove to on the morning of the 2d, to await the fog's clearing away, that we might see the land. Finding soon afterwards that the ships drifted considerably, the wind being fresh from the eastward, or directly towards the shore, we made fast to an iceberg for better security. On the weather clearing up about noon, we found ourselves close to Resolution Island, which bore from S. 21° E. to S. 77° W. a very remarkable piece of land called by our fishermen, on account of its peculiar appearance, the "Black Bluff," being distant from us five or six miles. Our latitude by account, at this time, was 61° 59′ 49″, and long. 64° 47′ 50″, the soundings being one hundred and sixty-four fathoms, on a rocky bottom. The greater part of this land was now clear of snow, which, however, still filled many of the valleys, and, together with the fog that hung over it, rendered the scene before us indescribably dreary and disagreeable. It requires a few days to be passed amidst scenes of this nature, to erase, in a certain degree, the impressions left by more animated landscapes; and not till then, perhaps, does the eye become familiarized, and the mind reconciled, to prospects of utter barrenness and desolation such as these rugged shores present.

Some clear water appearing to the southward, we made sail along the island in that direction, passing a great many ice-bergs, of which Captain

Lyon counted fifty-four in sight at one time. Some of these were of large dimensions, their height above the sea being not less than two hundred feet. In passing one of them, which was aground, at three P.M., we observed the flood running past it to the W.S.W., at the rate of two or two and a half knots. At six o'clock the ice became so close that we could no longer make any progress, and the tide carrying us soon after towards a large berg aground in ninety fathoms, while the drift ice threatened to enclose us betwixt them, we ran under the lee of the berg and, by great exertion in the boats, succeeded in getting a line fast to it. The eddies and whirlpools, however, caused by the tide running at the rate of four or five knots, rendered the ships perfectly unmanageable, and the ice closing round us before a hawser could be run out, the line was soon snapped, and the ships carried towards the land, the boats having with difficulty been got on board and hoisted up. 1821. July.

We lay closely beset, though drifting rapidly about with the tides, during the night; and, early on the morning of the 3d, the ice gradually slacking about us, we succeeded in getting into clear water, and continued our progress without obstruction, at the distance of ten or twelve miles from the land. Within this the ice was closely packed in one impenetrable body the whole way to the shore, and the same to the southward and eastward, leaving a navigable channel, four or five miles in breadth, leading towards the entrance of Hudson's Strait. Tues. 3.

These favourable appearances, however, continued only till seven P.M., when the ice opposed our further progress to the westward, covering the whole sea as far as the eye could reach in that direction; the ships were, therefore, of necessity hove to, in order to await some change in our favour. The tide appeared to have been setting to the eastward from noon till six P.M., about which time it turned in the opposite direction, and, soon after we had hove to, the ships were carried by it into the ice which formed their present impediment, at the rate of more than three miles an hour, and were quickly beset by other pieces of ice drifting in upon them from the eastward. The ice here consisted principally of large, though loose, masses of broken floes, none covering more than a quarter of an acre, and few so much, but having many high hummocks, and drawing a great deal of water. We counted also above thirty bergs in sight at one time, and observed that many of them were carried about by the tides with great rapidity.

At a quarter past midnight the westerly tide slackened; and the ice, soon

1821. July. after, began to drift back in an E.N.E. direction at the same rate as before. We remained beset the whole of this day, driving very near some bergs which lay in our way, but unable to move the ships in any direction. We were, at noon, in lat. 61° 13′ 05″, longitude by chronometers 64° 05′ 10″. The weather being foggy, no land was in sight. Besides the above observations, some were also obtained for the dip of the magnetic needle, which was 83° 58′ 51″, and for the irregularities occasioned by local attraction; these are inserted in the Appendix. Abundance of fine fresh water was found upon the large pieces of floe-ice to which the ships were fast, and this opportunity was, as usual, taken to fill as much as we required, as well as to wash the ships' companies clothes.

Thurs. 5. A fresh breeze from the W.S.W. springing up on the morning of the 5th, accompanied by clearer weather, we cast off to try what could be done, and succeeded in pushing the ships in-shore, where we found a "lane" of tolerably open water, owing to the ebb-tide having set the ice off in a body. As this tide was now a lee one, however, we could with difficulty keep the ships to windward under a press of sail; and, as soon as we had come to the end of the lane, were under the necessity of driving back to the eastward, the little distance we had gained. We had now only advanced within five or six miles of the south point of Resolution Island, which, by our observations, lies in lat. 61° 20′ 40″, long. 64° 55′ 15″. The former of these, which is the result of several meridian altitudes, is eight miles to the southward of the position usually assigned to this headland in the charts. A league or two to the eastward of this, we observed two openings having the appearance of harbours, which I should have been glad to examine, but that I had found the flood-tide always set directly in towards the land for the first or second quarter. As this was now about to make, it became necessary to the safety of the ships to gain an offing, in order to interpose some ice between them and the shore. We accordingly stood off for a few miles, and then made fast to a floe-piece, just as the ice came crowding back from the eastward with the flood-tide. The stream of the ebb ran, in the offing, till seven o'clock this evening, and we could perceive that it remained slack for a very short time.

Frid. 6. The wind shifted to the south-eastward in the course of the night, with a strong breeze and heavy rain; and, on the following morning, when the ebb-tide opened the ice a little, a considerable swell was admitted from the sea, causing the ships to strike violently and almost constantly on the

masses of ice alongside of them. In this situation they continued for several hours so completely beset as to render it impossible to extricate them, and drifting about at random with the tides. The Hecla was, by a different set of the stream, separated five or six miles from the Fury, while both ships were equally hampered. 1821. July.

The effects to be apprehended from exposure to the swell of the main ocean constitute the peculiar danger of first entering the ice about the mouth of Hudson's Strait, which is completely open to the influence of the whole Atlantic. A very inconsiderable quantity of loose ice is sufficient to shelter a ship from the sea, provided it be closely packed; but when the masses are separated by wind or tide, so as to admit the swell, the concussions soon become too violent for a ship, strengthened in the ordinary way, to withstand for any length of time. On this account, it is prudent not to enter the ice without a fair prospect of getting seven or eight leagues within the margin. For the same reason, also, when likely to be beset near the sea, it is better to make a ship fast to small than to large pieces, in order to avoid the heavier concussions occasioned by the latter.

A thick fog prevailed during most of the day, with only occasional intervals of clear weather. Soon after noon, we suddenly found ourselves close to a large berg, of which there were many about us, and which are dangerous neighbours in so rapid a tide-way. The ice near us being fortunately slack at this time, a light air of wind, with the boats a-head, enabled us to get clear of it. Those bergs which were not aground we observed to drift to and fro with each tide, fully twice as fast and, consequently, twice as far as the masses of field-ice; which circumstance seems to shew that the stream must extend very far below the surface, many of these immense bodies being from fifty to ninety feet above the surface of the sea and reaching, probably, almost as many fathoms below it. The bergs which thus drive about are, however, less dangerous to approach than those aground, against which a ship is liable to be carried with the whole force of the tide.

The fog suddenly clearing away, at 6 P.M., we found ourselves close under Resolution Island, though we could obtain no soundings with one hundred and ten fathoms of line. In standing off we were soon again enveloped in fog and, being once more beset as soon as the flood-tide made, were drifted about during the night, without knowing in what direction we went. The weather again clearing up for a short time, on the evening of the 7th, we found, to our great surprise, that the Hecla had drifted eleven Sat. 7.

1821. July. or twelve miles to the westward of us, though still beset in the ice. This circumstance appeared the more extraordinary, as the ships had been close together only a few hours before, and shews in a very striking manner the irregularity of the tides in this neighbourhood. In the afternoon an attempt was made to join the Hecla; but a gale coming on from the southward and westward, with the same thick weather as before, we were soon set fast again among heavy masses of floe-ice. The soundings were from one hundred and forty to one hundred and fifty-five fathoms, upon a hard rocky bottom, at the distance of about three leagues from the land. Some water brought up, in the course of the day, from one hundred and ninety fathoms, was at the temperature of 32°, that of the surface being 31°, and of the air 33½°.

Sun. 8. Early on the morning of the 8th, an opportunity offered of getting into a lane of clear water, which here, from the rapidity of the tides, often forms and disappears again with astonishing quickness. On standing towards the Hecla, which was still beset, I was informed by telegraph that she had suffered no material injury, except in the loss of a bower anchor, which was broken off in the shank by a heavy blow from a mass of ice. In the course of this day, however, she narrowly escaped a much more serious disaster, being carried by the ice within two hundred yards of the shore, and close to several rocks lying off it, and nearly swept into a dangerous inlet. In this situation, all that could be done was to endeavour to warp round the large floe piece to which she was attached; but this attempt was completely frustrated by the floe always turning as soon as any strain was thus put upon it. In this perilous situation she remained for several hours, after which, by great exertions, she succeeded in getting out of the ice, and rejoined us in the evening. The weather was beautifully clear during the whole of this day, though the wind was from the southward, and sometimes a point or two to the eastward of south. For the first time, also, since we came off Hudson's Strait, for we had scarcely yet entered it, a large space of water remained open during the whole of the flood-tide, so that we were enabled to advance a league or two farther to the westward than before.

Mon. 9. Early on the morning of the 9th, however, the ice again closed in upon us, and we remained immoveably beset for a week, during which time, to prevent separation, the ships were made fast to the same floe-piece, and were found to drift from one to four or five miles to the southward daily, and rather to the westward. It was, however, a matter of agreeable

surprise to us to find the masses of ice so quiet among themselves as to give us no disturbance; a circumstance that seemed to indicate a greater regularity in the set of the tides near the centre of Hudson's Strait, carrying the whole of the ice along in one body, instead of producing the violent cross-sets which we had experienced in-shore. In the middle of the strait we could obtain no soundings with three hundred fathoms of line. The sea-water was frequently brought up in Dr. Marcet's bottle from different depths below the surface, when its temperature was found to be as follows: 1821. July.

DAY.	Time.	Depth in Fathoms.	Temp.	Surface Water.	Air in Shade.	Air in Sun.
July 9	8 A.M.	253	32° 8	31°	34	—
„ 10	Noon.	243	34	32¼	37	60
„ 12	Noon.	320	33	30.7	40½	44
„ 13	4 P.M.	310	33	31	42	82
„ 14	8 P.M.	313	31	31	35	—
„ 17	8 A.M.	315	32.8	31	35	—
„ 19	11.30 A.M.	118	32	34	45	—
„ 21	4 P.M.	106	31¼	34	44	—

On the 13th, both ships' companies were exercised in firing at a target on the ice, as well for the purpose of giving them occupation, as of finding out who were our best shots. On the same afternoon, we saw two ships beset to the northward, which we supposed to be those bound to the Hudson's Bay factories. They were joined the next day by a third ship, which afterwards proved to be, as we conjectured, the Lord Wellington, having on board settlers for the Red River. The ice being somewhat more slack about the ships on the 15th, we cast off and made sail at nine P.M.; but after running with difficulty about a mile to the W. b N., we were obliged to make fast to a small berg near us. Here we remained till eleven P.M., the wind blowing a gale from the N.E., when the ice closing in suddenly and violently to leeward of the berg, forced the ships against it, and was near carrying away the Hecla's bowsprit by the pressure. The Fury also received a heavy "nip," which, lifting her abaft, made her timbers crack a good deal about the quarters, but no material injury was sustained. To avoid, however, a repetition of this occurrence, we cast off, and allowed the ships to take their chance among the loose ice for the rest of the night, which was dusky about midnight. Frid. 13. Sat. 14. Sun. 15.

The ice being rather less close on the morning of the 16th, we made sail

1821. July. Mon. 16. to the westward, at 7.45 A.M., and continued "boring" in that direction the whol day, which enabled us to join the three strange ships. They proved to be, as we had supposed, the Prince of Wales, Eddystone, and Lord Wellington, bound to Hudson's Bay. I sent a boat to the former, to request Mr. Davidson, the master, to come on board, which he immediately did. From him we learned that the Lord Wellington, having on board one hundred and sixty settlers for the Red River, principally foreigners, of both sexes and every age, had now been twenty days among the ice, and had been drifted about in various directions at no small risk to the ship. Mr. Davidson considered that he had arrived here rather too early for advancing to the westward, and strongly insisted on the necessity of first getting to the northward, or in-shore, before we could hope to make any progress;—a measure, the expediency of which is well known to all those accustomed to the navigation of icy seas. By the Prince of Wales we sent our last letters for our friends in England; and I took the same opportunity to acquaint the Secretary of the Admiralty with the proceedings of the Expedition up to this date.

Tues. 17. On the 17th, the weather was beautifully fine and warm with very little wind. A thermometer exposed to the sun's rays on board stood, at noon, as high as 81°; on a pole on the ice it was at 60°; and in the shade from 41° to 43°. The horizon was very much distorted by refraction in all directions, causing the ice to assume a great variety of fantastic shapes, but generally appearing like a high wall, consisting of innumerable perpendicular columns, and completely surrounding us. Our latitude observed at noon was 61° 09′ 17″; the longitude, by chronometers, being 67° 11′ 10″; and we had soundings in three hundred and forty fathoms on a rocky bottom. Grass or Green Island time, bore from S. 27° W., to S. 46° W., its distance being from three to five leagues, but uncertain, on account of the extraordinary appearance given to it by refraction. The state of the ice being rather more favourable in the afternoon, we made sail to the northward

Wed. 18. in company with the Hudson's Bay ships, and had, on the following day, made some progress towards a remarkable headland called the East Bluff. A few leagues to the westward of this is a smooth part of the land, rather higher than that in its neighbourhood and, for an extent of one or two miles, completely covered with snow. The snow remains upon it, as Mr. Davidson informed us, the whole summer, as they find the land presenting the same appearance on their return through the strait in the autumn,

This circumstance, which has obtained for it the name of "Terra Nivea" upon the charts, I do not know how to account for, as the height of the land above the level of the sea cannot certainly much exceed a thousand feet. 1821. July.

At eight A.M., on the 20th, we cast off and made sail, the ice consisting of heavy loose masses, generally open enough to allow a ship to sail between them, if favoured by a commanding breeze. The tides here gave us no sort of disturbance, nor could we perceive exactly in what direction they set. The weather was extremely clear and the atmosphere warm and comfortable. A thermometer, freely suspended in the sun, at two P.M., stood at 74°; when placed upon some black-painted lead, on deck, at 116°; and in the shade, at 45°. Frid. 20.

Proceeding slowly to the westward, we had reached at noon on the 21st the lat. of 61° 50′ 13″, long., by chronometers 67° 07′ 35″. In this situation several islands were in sight to the northward and westward, and, among the rest, a remarkable one called Saddle-back on account of its shape. The wind backing to the westward in the afternoon, we anchored the ships to the largest floe-piece we could find, there not being room to beat to windward. While thus employed we heard voices in-shore, which we soon knew to be those of some Esquimaux coming off to us. Shortly after, several canoes made their appearance; and seventeen of these people came alongside the Fury. Having hauled their *kayaks* (canoes) upon the floe, they began to barter their commodities, consisting of seal and whale blubber, whale-bone, spears, lines, and the skins of the seal, bear, fox, deer, and dog. Our first endeavour was to procure as much oil as possible, of which, as we had been informed by the Hudson's Bay ships, several tons are thus almost annually obtained from these people. We soon found that they had been well accustomed to bargain-making, for it was with some difficulty that we could prevail upon them to sell the oil for any thing of reasonable value. They frequently gave us to understand that they wanted saws and harpoons in exchange for it, and as these were articles which we could not spare, it was not without trouble that we obtained, in the course of the evening, two barrels of blubber in exchange for several knives, large nails, and pieces of iron hoop, which was certainly a dear bargain on our side. If they saw more than one of these at a time, they would try hard to get the whole for the commodity they were offering, though, when we had for some time persisted in refusing, they would not only accept what was offered, but jump for joy at having obtained it. They always licked the articles given them, Sat. 21.

1821. July. and in one instance only did we notice any inclination to break the contract after this process had been gone through.

Shortly after these men had arrived, a large *oomiak*, or women's boat, made its appearance, containing six or seven females and four men, the oldest of the latter, as seemed usual among them, steering the boat with a rude oar of wood. The women could not be induced to land upon the floe, but held up skins and small narrow strips of well-tanned leather to exchange, loudly vociferating *pilletay* (give me) the whole time. There were in this boat several skins of oil and blubber, which I tried hard to purchase, but nothing could induce the old man to part with more than one skin of it; for what reason I could not tell, except that he hoped, by perseverance, to obtain a higher price. On my desiring our men to hand out a second skin of oil, as an equivalent for which I put into the old man's hand a second knife, he resisted most vehemently, pushing our men aside in the boat with a violence I have never seen the Esquimaux use on any other occasion. One of the younger men then came forward and was lifting up the stretcher of their boat to strike our people, who were good-humouredly laughing at the old man's violence; when I thought it high time to interpose, and, raising a boat-hook over the head of the Esquimaux, as if about to strike them, soon brought them into a cooler mood; after which, to prevent further altercation, I ordered our people out of the boat. We had, by this time, succeeded in purchasing all the oil brought by the first canoes, and as the old fellow, who was commanding officer of the *oomiak*, obstinately persisted in his refusal to sell his, I ordered him away, when he immediately rowed to the Hecla and, as I was afterwards informed by Captain Lyon, sold his oil for less than he might have obtained at first. Four other *oomiaks* afterwards came from the shore, from which we were distant five or six miles. Each of these contained from fourteen to twenty-six persons, the majority being females and young children. Upon the whole, not less than one hundred of the natives visited the ships in the course of the evening.

These people possessed in an eminent degree the disposition to steal all they could lay their hands on, which has almost universally been imputed to every tribe of Esquimaux hitherto visited by Europeans. They tried, more than once, the art of picking our pockets, and were as bold and unembarrassed as ever, immediately after detection. It is impossible to describe the horribly disgusting manner in which they sat down, as soon as they felt hungry, to eat their raw blubber, and to suck the oil remaining on the skins

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we had just emptied, the very smell of which, as well as the appearance, was to us almost insufferable. The disgust which our seamen could not help expressing at this sight seemed to create in the Esquimaux the most malicious amusement; and when our people turned away literally unable to bear the sight without being sick, they would, as a good joke among themselves, run after them holding out a piece of blubber or raw seal's flesh, dripping with oil and filth, as if inviting them to partake of it. Both the men and women were guilty of still more disgusting indecencies, which seemed to afford them amazing diversion. A worse trait even than all these was displayed by two women alongside the Hecla, who, in a manner too unequivocal to be misunderstood, offered to barter their children for some article of trifling value, beginning very deliberately to strip them of their clothes, which they did not choose to consider as included in the intended bargain. 1821. July.

Upon the whole, it was impossible for us not to receive a very unfavourable impression of the general behaviour, and moral character, of the natives of this part of Hudson's Strait, who seem to have acquired, by an annual intercourse with our ships for nearly a hundred years, many of the vices which unhappily attend a first intercourse with the civilized world, without having imbibed any of the virtues or refinements which adorn and render it happy.

Early on the morning of the 22d, a number of canoes repeated their visit to us, the Esquimaux having hauled them upon a piece of ice to lodge for the night. In the forenoon, an *oomiak* also came from the shore, and as no intercourse with them was permitted till after divine service, they became very impatient to barter their commodities, and walked on the ice alongside the ship, with a number of trifling things in their hands, vociferating "pilletay" to such a degree that we could hardly hear ourselves speak. Some more oil was obtained in exchange for pieces of iron hoop, and, at a quarter before noon, the wind coming more to the southward and the ice being somewhat less close than before, we cast off and made sail up the strait. Sund. 22.

The wind and ice combined to favour us more and more as we proceeded, the former both in strength and direction, and the latter by opening into loose streams; so that, for the first time since we entered Hudson's Strait, we were now enabled to set all the studding-sails, with some prospect of deriving advantage from them. The Hudson's Bay ships remained at anchor some time after we made sail, and in the course of the evening we finally lost sight of them. From this circumstance, as well as from the

1821. July. unimpeded progress we had just began to make to the westward, it was now only that we considered our voyage as having fairly commenced.

At five P.M., we were abreast of Saddleback, which we make in lat. 62° 11′, long. 67° 43′; but, having no observations when in its immediate neighbourhood, it is thus laid down by our dead-reckoning only. The small cluster of islands to which this belongs is called in the charts the middle Savage Islands; a name by which Mr. Davidson did not know them, nor can I find any authority for it, but which may serve to distinguish them as well as any other. Though there appeared to be several small openings as if between islands along this coast, yet we saw none of any magnitude like that marked "Jackman's Sound," in Mr. Arrowsmith's chart, which we must have plainly noticed had it existed as there laid down. The fact is, that the inlet, so called by Sir Martin Frobisher in the year 1576, has its only *known* entrance on the south shore of the strait bearing the name of that navigator, its communication with Hudson's Strait being a matter of very doubtful conjecture. I believe, indeed, we may safely consider the land, by whatever name it may be designated, as continuous the whole way from the East Bluff, as far westward as North Bay. When abreast of Saddleback, at the distance of five or six miles, we had from fifty to sixty fathoms' water. At half-past four P.M., the tide mark upon the grounded ice-bergs was about ten feet, and the stream, being that of ebb, was setting strong to the eastward.

On the morning of the 24th, we found, on standing in-shore, that we were off the great opening called North Bay, the largest and highest of the Upper Savage Islands*, forming the western point of its entrance. The North Bluff, a remarkable promontory, being the eastern point of the large portion of nameless land lying immediately above the Savage Islands, appears very conspicuous when standing in from the S.S.E. From this headland the Hudson's Bay ships not unfrequently take their departure, and strike off more to the westward towards the entrance of the bay; though this depends, in some measure, on the situation of the ice, which is somewhat different at the same period of different seasons. It is, however, a general rule with them to keep close along the northern shores of the strait, till the openness

* Under these Islands ("the easternmost saving one") Baffin anchored A. D. 1615, and named them the Savage Islands. He describes them as "having a great sound or indraught between the north shore and them," and lays down his anchorage in latitude 62° 30′, long., "near 72°." Our observations place it 2½ miles to the northward, and 1° 52′ to the eastward of that position.

of the sea offers a prospect of making a fair run to the westward. Mr. Davidson informed me that, after leaving this shore, they seldom meet with any very serious obstruction, except from a body of ice which they usually have to penetrate near Charles's Island, and which, from the frequency of its occurrence in that situation, has obtained the name of "Charles's Patch." Long experience has brought those who frequent this navigation to the conclusion that, in most seasons, no advantage is to be gained by attempting to enter Hudson's Strait earlier than the first week in July, the annual disruption of the ice which occupies the upper and middle parts of the strait being supposed not to take place till about this time. In the course of our single year's experience in these parts, we have seen nothing to recommend a practice different from that at present pursued by the ships of the Hudson's Bay Company. 1821. July.

In the afternoon, having a contrary wind, against which little progress could be made, I landed, at half-past four, upon the easternmost of the Savage Islands, accompanied by several of the officers, and was shortly after joined by Captain Lyon. The lower parts of this island are composed of gneiss and granite, and the upper part of mica slate in thin laminæ, and containing garnets in some specimens. At the foot of the cliffs, which rise from four to five hundred feet above the level of the sea, many huge separate masses of granite occurred, in which the red feldspar, white quartz, and plates of dark-coloured mica were large and distinct. Veins also of white quartz, eight or ten inches wide, and nearly in a vertical position, traverse the rocks in some parts of the island. After making the usual observations for the longitude and variation, we ascended to the highest part of the island, which is from six to eight hundred feet above the sea, in order to take an eye-sketch and angles of the surrounding lands. We here counted eleven islands, which may properly be considered as belonging to the group called the Upper Savage Islands, occupying nearly the whole space between that on which we stood, the largest and highest of the whole, and the western shore. The south point of this island is comparatively low, and appeared to have shoal water off it to the distance of half a mile. Captain Lyon here noticed the remains of some Esquimaux habitations, consisting, as usual, of small rude circles of rough stones*; and one human skull was also found there. We met with a

* These circles are, in the Narrative of the former Voyage, erroneously called "huts," as we then took them to be the remains of the winter habitations of the Esquimaux; whereas, they are exclusively used for extending the skins composing their summer tents.

1821. July. few pieces of drift fir-wood, some of which having been sawed and others chipped, shewed that these people were not in want of wood, since they could thus afford to leave it behind them in no inconsiderable quantity. The only animals seen were one hare, which was very dark on the back, a single grouse, a bird like a snipe, and some flocks of snow buntings; but the dung of hares was abundant. There was in some places a good deal of vegetation, and among the specimens collected, were several of those we had before met with in the polar regions, especially the sorrel, *(rumex digynus)*, scurvy-grass, poppy, *(papaver nudicaule,)* saxifrage, *(saxifraga oppositifolia)*, dwarf willow, and *andromeda tetragona*, the latter being in flower, and growing in great abundance on the higher parts of the island. On the hills were some large ponds of water, which poured their streams down the cliffs into the sea, through arches formed under the snow with which the sides of the hills were still covered.

The latitude of our place of observation is 62° 31′ 30″, its longitude, by chronometers, 69° 57′ 17″, and the variation of the magnetic needle 52° 37′ 04″ westerly. When we landed, at forty minutes after four, P.M., the tide had ebbed about two feet and a half; and at twenty minutes after seven when we left the island, it had fallen thirteen feet more; from which the whole fall of this tide, though at the dead of the neaps, may be considered as above twenty-nine feet. We had hauled our boats up on a smooth inclined rock, but, on our return from the hills, had to lower them down ten or twelve feet perpendicular. By these observations it was concluded that the time of high water at full and change, was about thirty-five minutes past seven o'clock. The current, by a boat moored in the offing, was found to set S.S.E. ½ E., three quarters of a mile per hour, and as it appears to have been running in the same direction during the whole time that we were on shore, it may be presumed that the ebb tide comes down the bay, or from the northward and westward. The time of high water, deduced from our observations, is about two hours earlier than that usually marked in the charts. This discrepancy may partly arise from an actual difference to that amount, between the time of high water on shore, and that of the change of tide in the offing, where it is most common, as well as most useful, for seamen in general to observe it.

From the top of the hill we could see land nearly all round the bay; but in the middle it was so distant as by no means to give us an idea of its entire continuity. Had it been our business to explore it, the further examination

would have been attended with no great difficulty, as it was entirely free from ice, as far as the eye could reach, except one or two bergs, and those of no very large dimensions. These bodies of ice became less and less numerous as we advanced up the strait from Resolution Island, and none were seen after we had proceeded a few leagues beyond our present station. 1821. July.

As soon as we returned on board, all sail was made to windward, the breeze being still from the westward and the sea almost free from ice. On the 25th we had fog occasionally which, however, cleared away in the afternoon, and at eight P. M., in stretching to the southward, we saw the hills on the Labrador coast, from which our estimated distance was eight leagues. Having then tacked and stood to the northward fifteen miles and a half by the patent log, we considered ourselves eight or nine miles from the north shore; so that the distance across the strait in this part, which is the narrowest, appears to be very correctly laid down at about sixteen leagues in Mr. Arrowsmith's chart. Wed. 25.

We continued to stand off and on, according to the tides, during the night, which was clear and fine; and found in the morning that we had gained a great deal of ground to the westward, which we continued to do throughout the day, though the wind blew steadily against us. The latitude, by observation at noon, was 62° 32′ 27″, the longitude, by chronometers, being 71° 36′ 30″. In the afternoon we stood well in to the land, in order to obtain good angles for the survey. There are, on this part of the coast, several islands and small inlets, one of the latter appearing like a harbour, a little to the eastward of which we had ninety-four fathoms at the distance of two miles and a half from the shore. A few miles to the westward of this inlet lies a high and craggy island, remarkable on account of its yellow sand-like colour, by which it may be distinguished from any of the rest of the numerous islands. We saw no ice this day, except a few streams here and there, but the smoothness of the water indicated our near approach to a larger body of it. Thur. 26.

On the 27th, we continued to gain a great deal of ground, the ebb-tides appearing to obstruct us very little. Indeed, from the very entrance of Hudson's Strait, but more especially to the westward of the Lower Savage Islands, it was a matter of constant surprise to find our dull-sailing ships make so much progress, when beating against a fresh wind from the westward; and I have no doubt of the accuracy of the remark made by our Frid. 27.

1821. July. early navigators, that the flood-tides run stronger than the ebbs on this coast *.

A light air at length springing up from the south-eastward enabled us to make way through the ice, which now once more occurred in great quantities in every direction, but the pieces were so loose as easily to allow the passage of a ship with a free wind. This ice, much of which was covered with sand, was so honey-combed and "rotten," that it appeared in a fair way of being entirely dissolved in the course of a few weeks. The current was found to run S. E. b. E., three quarters of a mile per hour, at nine A.M., or about the middle of the ebb-tide. For the last week, we had scarcely seen a living animal; a glaucous gull, a boatswain, and a few looms, constituting the whole that are mentioned in our journals. At two P.M., a thermometer in the sun stood at 87°, and in the shade at 50°. In the evening, the land abreast of us, in lat. 63¼°, long. 72°, became much lower than before, and without snow upon any part of it. The unevenness of its general outline gave to it, at times, the appearance of islands, of which there are, in reality, a great number hereabouts, though I have little doubt of the continuity of the land at the back. We continued to run all night through
Sat. 28. the same kind of ice as before, and, at forty minutes A.M. on the 28th, were abreast of five remarkable hillocks or undulations of the land, of which the appearance was sketched by Mr. Bushnan. We sounded frequently at the depth of eighty to one hundred and fifty fathoms, the bottom being extremely irregular. It rained hard for several hours, after which the weather cleared up, and the wind came from the northward. The ice being now too close to sail through with any but a leading wind, the ships were made fast to a floe-piece. For two days past, we had observed considerable ripplings on the water, as if occasioned by a strong tide, and the masses of ice were frequently set in motion on a sudden, without any apparent cause.

* This fact was noticed as early as the time of Luke Fox, who, in the journal of his voyage of 1631, frequently and particularly alludes to it. His account is confirmed in a highly valuable manuscript journal kept by a person of the name of Yourin, who served, it seems, as "one of the officers on board the Charles, Captain Luke Fox," on that voyage. This journal, which is no less remarkable for its perspicuity and accuracy than for the neatness with which it is penned, is in the possession of Lord Mountnorris. By his Lordship's permission a copy of this journal was obtained by Captain Sabine, to whom I am indebted for it.

On the 29th we were off a point of land, having several islands near it, and exactly answering the description of that called by Baffin, in the year 1615, Broken Point, "it being, indeed, a point of broken isles." This head-land is memorable on account of a lunar observation made off it by this able and indefatigable navigator, giving the long. 74° 05′, which is not a degree to the westward of the truth. Here the land turns more to the northward, leaving a considerable opening in that direction. 1821. July. Sun. 29.

A very light wind, from the wrong quarter, rendered all our exertions to get in shore fruitless, a close barrier still intervening between us and the open sea. During the first part of the forenoon, we observed the ships to be carried with the whole body of ice considerably towards the land, but at noon, having moored the small boat to the bottom in one hundred and thirty fathoms, the tide was found to run S. b. E., one mile per hour. Our latitude observed was 63° 51′ 44″, longitude, by chronometers, 74° 02′ 10″. In the evening, our prospect of an immediate release appearing more and more hopeless, we were under the necessity of making fast, when we obtained azimuths on the ice, which gave the variation 54° 51′ 58″ westerly*. The ice was found to have too much motion in azimuth for obtaining the dip, which phenomenon now began to acquire great interest. At eight P. M., we once more made sail and, after four hours' labour, the harassing nature of which cannot well be described or imagined, succeeded in getting into good sailing ice at midnight. The weather being now fine, and the wind becoming more easterly as well as freshening, we steered under all sail to the W. N. W.

On the morning of the 30th, however, a fog came on, so thick that, independently of the danger of continuing to run upon a coast, little if at all explored before, we also incurred the frequent risk of taking the wrong "leads" among the ice; which becoming closer obliged us to heave to, soon after six o'clock, and make the ships fast to a floe-piece. At nine A. M. the fog clearing off sufficiently to allow us to see a mile or two around, we cast off with a fresh breeze from the S. E. b. S., and ran to the north- Mon. 30.

* This result, however, which is deduced from several observations made by different observers, is probably about three degrees more than the truth, an error having been occasioned by the attraction of the ship, at the distance of 132 yards from the compasses. The observations are given in the Appendix, merely to shew the regularity with which an alteration took place in this error, occasioned by the motion of the floe to which the ship was attached, and the consequent change of the angle at which the ship's attraction acted on the needles.

1821. July. ward and westward, steering towards the land last seen, which again hove in sight at half-past ten A. M., consisting of several islands, though the thickness of the weather might have prevented our seeing any continuous line of coast at the back of them. Being at noon in lat. 64° 07′, and longitude, by account, 75° 11′, we hauled more to the westward, along the land, as soon as the ice would allow. In passing the westernmost of the islands, all of which are quite low, we carried a depth of from forty-nine to thirty-nine fathoms, at the distance of six or seven miles. In standing out to the southward, the water deepened, though very irregularly, to eighty-four fathoms, at the distance of four leagues from the land, where it was necessary for us to heave to, the fog coming on again thicker than before, and continuing throughout the night. A number of seals and one sea-horse were seen in the course of the day, as well as some fish jumping out of the water, which the look-out man in the crow's-nest took to be salmon.

Tues. 31. The weather gradually clearing, on the morning of the 31st, we again saw the land to the northward, which still appeared to consist principally of islands, along which our course was now directed. At noon, being in latitude, by account, 64° 01′ 30″, and long. 75° 48′ 50″, we had a near and distinct view of several of these, at the back of which there still ran a continuous line of coast. The islands seemed to form several fine inlets, and the tide in the offing was extremely strong, as appeared by the numerous ripplings on the surface of the water, and by our making very little progress for some hours with a favourable breeze. As the fog cleared away from the south-western horizon, we obtained the first glimpse of Salisbury Island in that quarter. In the afternoon, Captain Lyon discovered and made the signal for an Esquimaux *oomiak* coming off from the shore under sail, accompanied by eight canoes. We tacked to meet them, and lay to for half an hour, for the purpose of adding to our stock of oil. In this boat were sixteen persons, of which number two only were men, an old and a young one, and the rest women and children. In the features, dress, and implements of these people, we saw nothing different from those of the Esquimaux last described; but they were better behaved than the others, with whom our ships have had more frequent intercourse.

August, Wed. 1. We continued, on the 1st of August, to beat to the westward, between Nottingham Island and the North Shore, the distance between which is about four leagues, and the latter fringed with numerous islands. In the course of the morning, several canoes and one *oomiak* came off from the

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Sea, during the Month of *July*, 1821.

Day	Place.	Temperature of Air in Shade.			Mean Temperature of Sea Water.	Barometer.			Prevailing Winds.		Prevailing Weather.
		Maximum.	Minimum.	Mean.		Maximum.	Minimum.	Mean.	Direction.	Velocity.	
		°	°	°	°	inches.	inches.	inches.			
1	Near the entrance of Hudson's Strait.	+31½	+29	+30.50	32.58	30.11	29.83	29.980	North	modt.	hazy and snow at times
2		32	29¼	30.71	30.01	29.80	29.70	29.717	North	light	hazy
3		34	30	30.08	30.21	29.69	29.62	29.670	North	light	hazy
4		35	30	32.87	30.71	29.56	29.36	29.463	AM. NbE PM. SSW	light	hazy
5		36	32	33.46	30.25	29.72	29.39	29.582	SWbW	modt.	hazy
6		37	33	35.18	30.71	29.58	29.30	29.460	AM. SSE PM. WbS	light	thick fog and rain
7		37	31	34.58	30.46	29.60	29.36	29.440	AM. NE PM. WbS	modt.	thick fog and rain
8		36	31	33.42	30.71	29.91	29.69	29.827	AM. SSW PM. SSE	modt.	fine and clear
9		40	32	35.42	30.96	29.91	29.85	29.880	Southerly	light	cloudy
10		38	31	35.58	31.71	30.00	29.92	29.978	SWbS	light	fine and clear
11		42	33	35.17	30.75	29.96	29.78	29.867	EbN	light	fine and clear
12		40½	32	35.96	30.92	29.95	29.70	29.848	AM. East PM. SW	modt.	hazy and rain
13		48	30	35.96	30.62	30.21	30.00	30.102	SbW	light	fine and clear
14		38	30	34.46	30.42	30.21	30.10	30.177	Easterly	light	fine and clear
15		36	33	34.83	30.54	30.08	29.94	30.000	NE	fresh	cloudy and rain
16		35	31	33.42	31.00	29.91	29.86	29.892	NEbN	fresh	hazy and rain
17		43	33	36.83	31.54	29.99	29.91	29.942	AM. NNE PM. West	light	fine and clear
18		43	34	36.02	31.17	30.00	29.97	29.985	West	modt.	fine and clear
19		45	32	39.25	31.87	29.95	29.93	29.940	Calm		fine and clear
20		45	34	39.17	32.50	29.99	29.86	29.917	S Easterly	light	fine and clear
21		47	34	38.83	33.58	29.84	29.73	29.767	From East round by N to WNW	light	fine and clear
22	About the middle of Hudson's Strait, and near its northern shores.	39	32	35.50	32.04	29.77	29.62	29.722	AM. WbN PM. EbS	fresh	cloudy
23		41	36	38.54	36.67	29.66	29.56	29.607	NW	modt.	hazy and rain
24		39	35	36.50	35.67	29.81	29.72	29.773	NWbW	modt.	cloudy
25		36	33	34.29	33.29	29.84	29.82	29.828	NWbW	fresh	cloudy
26		39	35	36.83	33.25	29.97	29.87	29.937	NNW	modt.	fine
27		50	35	39.83	33.92	29.99	29.90	29.938	AM. NW PM. SE	light	fine and clear
28		41	33	35.83	33.00	29.86	29.79	29.818	AM. SEbS PM. North	light	hazy and rain
29		42	32	37.58	31.62	29.81	29.66	29.752	NEbN	light	fine and clear
30		37	32	34.58	31.42	29.64	29.39	29.526	SE	fresh	foggy
31		38	33	34.71	32.21	29.52	29.31	29.438	Northerly	light	thick fog
		50	29	35.38	31.82	30.21	29.36	29.799			

1821. August. mainland, containing about twenty persons, more than half of whom were women and children. They brought a little oil, some skin dresses, and tusks of the walrus, which they were desirous of exchanging for any trifle we chose to give them. They had, also, a number of toys of various kinds, such as canoes with their paddles, spears, and bows and arrows, all on a very small scale. Many of the jackets of these people, and particularly those of the females, were lined with the skins of birds, having the feathers inside; and they had, also, in the boat several other skins in a prepared state, taken from the throat of the *colymbus glacialis*, which splendid bird, though we had twice found its skin in possession of the Esquimaux, we had yet not met with ourselves.

Being desirous of ascertaining the time and direction of the tides, which run strong between Nottingham Island and the northern land, the current was tried several times to-day, about mid-channel, by a small boat moored to the bottom, and found to set as follows:

At 8 A.M.,	E.b.S.,	1 mile per hour.
— 9.40,	E.b.S.,	$\frac{6}{15}$ mile.
—11.15,	Slack (low ?) water.	
— Noon,	W.N.W.,	1¼ mile per hour.

The wind backing to the southward in the afternoon, we had a fine run along the land, and about ten P.M. had nearly lost sight of Nottingham Island, being abreast of three small black-looking islands, which answer to the Trinity Islands of Fox. Immediately to the westward of these, the land trends very much to the northward, leading towards the "Farthest" of that navigator; so that, our business lying to the westward, and being still favoured with a navigable sea and a fair breeze, we soon lost sight of that shore altogether. Some dusky clouds, which appeared upon the southern horizon this evening, were probably hanging over the Mill Islands.

After a run of forty miles, during the night, almost without seeing any
Thurs. 2. ice, we came, on the morning of the 2d, to a body of it so closely "packed," that we could make no further progress, while the masses on the outer edge were moving so rapidly in various directions, as to occasion us much trouble and many violent blows before we could get clear of them. The latitude observed at noon was 64° 59′ 24″, and the longitude, by chronometers, 79° 40′. The soundings were one hundred and three fathoms, on a bottom of hard rock and shells; but the depth varied, very frequently and

suddenly, from forty-two to one hundred. The tide was tried twice in the course of the day; at 11.30 A.M., it set S.S.W., nearly a knot; and at 1.10 P.M., N. 50° W., a mile and a half an hour; but the direction of it was so irregular, that the ships were frequently hampered, and received several heavy blows from the ice in consequence. After standing several miles to the northward, along the edge of the ice, without meeting with an opening, it began to lead us so much to the eastward that we tacked and stood back to the W.S.W., to try what could be done by patience and perseverance in that quarter. 1821. August.

The Expedition being now about to enter upon ground not hitherto explored, it became necessary for me to decide upon the route it would be most advantageous to pursue, for the accomplishment of the principal objects pointed out in my instructions. This route being, in a certain degree, left to my own discretion, I must here interrupt, for a moment, the narrative of our proceedings, as well to explain the grounds on which my determination rested, as to establish and elucidate the connexion between the researches of the present Expedition, and those of former navigators.

CHAPTER II.

REVIEW OF THE GEOGRAPHICAL INFORMATION OBTAINED BY THE RESEARCHES OF FORMER NAVIGATORS ON THE COAST OF THE AMERICAN CONTINENT, IN THE NEIGHBOURHOOD OF WAGER RIVER—DISCOVER AND ENTER *THE DUKE OF YORK'S BAY*, SUPPOSING IT TO BE A PASSAGE INTO THE SEA CALLED *THE WELCOME*—LEAVE *THE DUKE OF YORK'S BAY*, AND PROCEED TO THE NORTH-WESTWARD—PASSAGE OF *THE FROZEN STRAIT* AND ARRIVAL IN *REPULSE BAY*—CONTINUITY OF LAND THERE—OBSERVATIONS ON SHORE—REMARKS CONCERNING THE GEOGRAPHY, TIDES, AND NATURAL HISTORY OF THIS PART OF THE CONTINENTAL COAST.

1821. August. My instructions directed me to "penetrate to the westward, through Hudson's Strait, until I reached, either in Repulse Bay, or on some other part of the shores of Hudson's Bay, to the north of Wager River, a part of the coast which I should feel convinced to be a portion of the *continent* of North America." "Then to keep along the line of this coast to the northward, always examining every bend, or inlet," &c*. It became, therefore, my first business to inquire to what point the examination of the eastern coast of North America had already been carried, and its continuity satisfactorily determined.

The proceedings of the Expedition under the command of Captain Middleton, in his Majesty's ship the Furnace in the year 1742, together with the inquiry instituted by the Admiralty on his return, in consequence of the representation of Mr. Dobbs, furnish the principal materials for judging of this question. The disputes between Mr. Dobbs and Captain Middleton, which, like most other contests of a similar nature, gave rise to much personal animosity and virulent invective, have at least served the useful purpose of pointing out, with all the minuteness which the most determined hostility could suggest, the particular parts of Captain Middleton's conduct, which his

* Official Instructions.

accusers considered as lying open to censure or animadversion. It appears, from the documents laid before the public at the time by the respective parties*, that Captain Middleton was chargeable with neglect, in having quitted certain parts of the coast traversed by him, and which seemed likely to afford some outlet to the westward, without determining the continuity of the land by actual examination. The first and principal of these was Wager Inlet, to which Captain Middleton gave the appellation of a river, as subsequent examination has, in fact, proved it to be, and Mr. Dobbs that of a strait, leading, as he believed, in the desired direction, towards the Pacific Ocean. Wherever the strict and entire examination of a coast has been neglected, so as still to leave a doubt respecting its continuity, the mind naturally has recourse to all the indications that can be collected to supply the place of facts. In the present instance, the direction of the tides, the degree of saltness in the sea-water, the presence of whales, and other circumstances of minor importance, constituted the chief grounds upon which the disputants rested their respective arguments. The direction of the flood-tide has, indeed, constantly, and to a certain extent, justly been considered as affording an indication of some weight in forming a judgment on the spot, respecting the existence or non-existence of a westerly passage. To this the attention of Captain Middleton was strongly directed in his official instructions, which, in two different places, point out to him the propriety of "meeting the flood-tide," in order to accomplish the proposed object. And in his subsequent endeavour to vindicate his conduct "from the aspersions of Arthur Dobbs, Esq.," it is upon arguments deduced from this phenomenon that he has principally laboured to convince the public of the absurdity of expecting to find a passage to the westward, through Wager Inlet. In some parts of the channel which separates Southampton Island from the coast of America, and to which, though erroneously, the name of the Welcome has, of late years, been applied, it was understood that the flood-tide set from the northward; and it became, therefore, a matter of real interest to ascertain, by "meeting" it, from what sea it flowed. Now, here it was that Captain Middleton and Mr. Dobbs were most at issue; the former asserting that, in his discovery of the "Frozen Strait," through which he actually saw the tide of flood coming into the Welcome, the question was solved in a manner

1821. August.

* *A Vindication of the Conduct of Captain Middleton*, &c., London, 1743. Dobbs's *Abstract of Captain Middleton's Journal*, &c., London, 1744.

1821. August. highly conclusive to every unprejudiced mind; while the latter, fully impressed with a conviction that the story of the "Frozen Strait was all a chimæra, as well as every thing that" Captain Middleton had said "concerning that part of the voyage," confidently insisted on the probability of the tide finding its way in through Wager River, or, at least, through some arm of the sea communicating with that inlet from the westward. The fallacy of this latter opinion was amply proved by the researches of the next Expedition under Captains Moor and Smith, who, being sent out for the avowed purpose of contradicting or confirming the report of Middleton, traced Wager Inlet in their boats, till it was found to terminate in two inconsiderable and unnavigable rivers.

On leaving the Wager, Captain Middleton proceeded to the northward, keeping both the American coast and that of Southampton Island in sight, and noting their bearings and distance frequently and minutely in his log, as far as Cape Hope, in which space no doubt has ever been entertained, either by Mr. Dobbs or by any other person, of the complete continuity of the land on the American side. I felt perfectly satisfied, therefore, that Cape Hope formed a portion of the continent, and that the examination of the coast to the southward of it would be a needless and unprofitable occupation of our time.

To the northward of Cape Hope, the land is described by Captain Middleton as having been observed to turn short round to the westward; but the joy and encouragement afforded by this circumstance are said to have been soon clouded by finding they had reached a close bay, which prevented their further progress in that direction, and which, in consequence, obtained the appropriate name of Repulse Bay. It is worthy of particular remark, that even this part of the coast has not drawn from Captain Middleton's accusers, who, as well as their commander, had the advantage of being eye-witnesses of the whole transaction, a single expression implying a doubt of the continuity of the land in Repulse Bay. But the imputation of negligence or fraud, to which, in particular instances, he appears to have laid himself open, has, by a construction not uncommon, been extended to his general conduct, throwing an unmerited degree of doubt and uncertainty on every part of his labours. On this account, as well as from its geographical position, which seemed so favourable for the termination of the American continent to the north-eastward, has an importance been attached to Repulse Bay, even by those who are not the most sanguine on the subject of the

North-West Passage, which subsequent investigation has proved it not to deserve. 1821. August.

Having, on the considerations detailed above, decided on taking up the examination of the continental coast, from Cape Hope northwards, it became a question of scarcely less importance to determine, in the next place, by what route the Expedition would most quickly be enabled to reach that point, so as to occupy as much as possible of the present summer, upon ground not hitherto explored; and, if practicable, to get fairly on our way to the westward, along the northern coast of America, before the close of the navigable season. Here it was necessary for me still more carefully to balance in my own mind the ocular evidence of Captain Middleton against the speculative reasoning of Mr. Dobbs, the former having asserted that he had actually seen a strait intervening between Southampton Island and the shore to the northward of it, though apparently impracticable on account of ice; while the latter had written half a volume to prove the strait in question a fabrication, invented by the Captain for the purpose of deceiving Government, and of favouring the supposed views of the Hudson's Bay Company, his former employers. If Mr. Dobbs's suspicions were well founded, it would be necessary for us, by pursuing the known but circuitous route round the south end of Southampton Island, to sail a distance of one hundred and seventy leagues from our present station, and above two hundred, in case of failure at the Frozen Strait, in order to reach the point where our operations were to commence; whereas, on the supposition of the existence, and, of course, the practicability, of that passage, the distance would scarcely exceed fifty leagues; a difference of no small moment in the icy seas. After the most anxious consideration of all this contradictory evidence, I came to the resolution of attempting the direct passage of the Frozen Strait; though, I confess, not without some apprehension of the risk I was incurring, and of the serious loss of time which, in case of failure either from the non-existence of the strait or from the insuperable obstacles which its name implies, would thus be inevitably occasioned to the Expedition.

On standing back to the west south-west the ice was found as impenetrable as before, and the ships were therefore made fast in the best manner we could, to await some alteration in our favour. On the morning of the 3d, Frid. 3. we had some heavy rain, although the wind was westerly; but, on its veering to the northward, the weather cleared up, and continued beautifully

1821. August. fine for the rest of the day. With the hope of gaining some ground we cast off, but found it impossible to make any progress through the ice, which, though its general body continued closely packed, was, in some parts, running about in various and even opposite directions, at the rate of two or three miles an hour, so as frequently to come in forcible contact with the ships, without the possibility of our avoiding it by sailing out of its way. The rapidity and irregularity of the tides in this neighbourhood were particularly remarked by our early navigators, and, indeed, gave the name to Mill Islands, "by reason of grinding the ice." There can be little doubt that this irregularity is principally occasioned by a meeting of the tides hereabouts, for there is tolerable evidence of the flood coming from the northward down the great opening leading to Fox's Farthest, and which I have called Fox's CHANNEL*. This tide, meeting the rapid stream which sets from the eastward through Hudson's Strait, must, of necessity, produce such a disturbance as has here been noticed. The current was tried at noon, this day, and found to set north by west, three quarters of a mile an hour, and at thirty minutes past nine, P.M., it was running to the south-east one mile per hour, but which of these was the flood tide we had no means of determining.

Sat. 4. At ten A.M., on the 4th, we saw an appearance of land, much raised and distorted by refraction, though the weather was fine, and the atmosphere apparently clear, from N. 82° E. to S. 53° E., being part of the coast discovered by Baffin, in the year 1615, and more minutely traced by Fox, in 1631. At noon we observed in lat. 65° 00′ 17″, the longitude, by chronometers, being 79° 56′ 55″. At this time, the prospect to the westward appeared from the crow's-nest as unpromising, on account of the closeness and extent of the ice, as I ever remember to have seen it. Shortly afterwards, however, the sea gradually, or rather suddenly, became navigable in that direction, the ice separating and, in fact, disappearing in so rapid and extraordinary a manner as to astonish even those among us who had been the longest accustomed to this navigation, and affording a striking example of those sudden changes which, in icy seas, almost teach us never to despair of making progress, even under circumstances apparently the

* Baffin particularly insists on this being the case, both near Trinity Islands, and off Southampton Island; and, I think, notwithstanding a contrary opinion held by Fox and Yourin, our observations on the tides in this neighbourhood, and subsequently at Winter Island, serve to confirm those of Baffin.

most unfavourable. We did not fail to take advantage of this alteration, and, standing under all sail to the westward, soon made Southampton Island. At midnight we had deepened the water to one hundred and five fathoms. 1821. August.

After an unobstructed run of between thirty and forty miles, we were again stopped, and obliged to make fast, on the morning of the 5th, the ice becoming gradually closer, and occurring in heavy and extensive floes. After divine service had been performed, we again made sail, being in lat. 65° 22′ 50″, and longitude, by chronometers, 81° 24′. By dint of a good deal of "boring," and after receiving a number of very violent blows, we succeeded in forcing our way about ten miles nearer the land, which appearing not to be continuous in one part, I concluded we were near the eastern entrance of the Frozen Strait. But the haze or fog-bank which, in these regions, even on days apparently the clearest, often gives a distorted appearance to objects at the distance of four or five leagues, prevented our making it out distinctly. As it was now impracticable to make any further progress, we were under the necessity of submitting to that suspense which the increasing interest of our situation naturally excited. Sun. 5.

Some of the floes in this neighbourhood measured at least half a mile each way, being the largest, except one or two, that we had yet met with. They were all covered with innumerable "hummocks," between which were pools of water, some fresh, and others communicating with the sea below. Though we subsequently witnessed the formation of one kind of "hummocky" floes, by means of the doubling occasioned by pressure, these were evidently produced in a different way. From their appearance it would seem that they are formed of numerous detached masses of ice, left floating on the sea at the setting in of the winter's frost; which, facilitating the production of a new sheet, are enclosed and, as it were, soldered together by it; thus, increasing to several feet in thickness in the course of the winter, and receiving a covering of snow upon its upper surface, it becomes one firm and compact body. The height of the hummocks, which were here five or six feet above the general level of the floe, depends, of course, on the size of the masses remaining undissolved at the close of the summer; and, in most parts of Baffin's Bay, where, I believe, little or none of the former year's ice would be found at the setting in of the frost, the floes are level and regular, like those which we know to be produced

1821. August. annually in almost all undisturbed situations. When the thawing commences, the water lodges in the cavities formed on floes by the hummocks, making the numerous pools we see in the summer, gradually finding its way completely through the ice, and thus, at length, serving again to separate the original masses, or hummocks. This is one, among the many instances, in which Nature may be observed wonderfully to adapt her means of dissolving the ice to those she employs in its production, thereby preventing any undue accumulation of it in the polar regions of the earth.

While on this subject, I may offer a few remarks respecting the stones, sand, shells, and weed, found upon the surface of all the ice in this neighbourhood. The quantity in which these substances here occurred was really surprising, and puzzled us extremely to account for the manner in which they found their way upon the floes. This circumstance has been generally explained by simply attributing it to the whole floe having been in immediate contact with the land, enabling the streams to wash, or the winds to blow, these substances into the situation in which they are found, in the same manner as they are deposited on bergs formed on the shore. But to those who have been eye-witnesses of the fact, to the extent in which it here occurred, this mode of explaining it, however plausible at first sight, is by no means satisfactory; for masses of rock, not less than a hundred pounds in weight, are sometimes observed in the *middle* of a floe, measuring half a mile, or more, each way, and of which the whole surface is more or less covered with smaller stones, sand, and shells. To suppose the wind strong enough to blow these substances such a distance would be absurd; nor is the supposition of their having been washed there scarcely more probable, for as a floe of ice must float considerably above the surface of the sea, it is not easy to conceive how it can be overflowed, and much less how heavy stones can be carried half a mile along it. It has been suggested that the floe may be held down by its firm cementation to the shore, while the water from the land above it rushes in a torrent along its upper surface. This, however, is contrary to experience, which shews that, long before the streams on the land are sufficient to effect this, the ice next the shore is completely thawed, and detached from the beach, and therefore at liberty to float in the natural way.

The only explanation of this fact that I can suggest is, that as it is generally found to be the case to the greatest extent upon the "hummocky" floes, the substances may have been deposited upon each mass of ice when separate,

and eventually brought into the middle of a large floe by the process detailed above. This explanation, however, goes but a little way towards clearing up the difficulty; for, besides the necessity of supposing, in this case, that each mass of ice has in its turn been brought into close contact with the shore, we have never seen an instance, in any bay or harbour, where ice so brought, even under the most favourable circumstances, has received any such deposit. In whatever manner it may be effected, it is certain that these substances act an essential part in the dissolution of the ice, as even the smallest stone or collection of sand, may always be observed to have formed a pool of water around it, in consequence of the radiation of heat from its surface. The stones now found upon the ice were granite, gneiss, feldspar, and lime, the latter being most abundant; indeed, all the earthy matter found in the holes effervesced with sulphuric acid. There were also several kinds of shells, among which was the species of *anomia* first discovered in Barrow's Strait, and found both in the shell and the fossil state in the course of the former voyage. 1821. August.

The variation of the magnetic needle was here 55° 05′ 30″ westerly. At seven P.M. the tide set E.b.S, at the rate of half a mile an hour, the ice being remarkably still, and the strength of the tides certainly much less than farther to the eastward; a circumstance, which, added to our subsequent observations, confirmed the remark of Baffin, that there was "less shew of tide" in this part. Having succeeded in forcing the ships two miles farther in-shore, we again made fast, having deepened the water to one hundred and fifty fathoms.

At noon on the 6th, we observed in lat. 65° 28′ 15″, being two miles and a quarter to the northward of that in which Bylot, with whom Baffin sailed as pilot, left off his search of a passage to the westward in 1615. The reasons which induced him to relinquish the enterprise at this place were, the increased quantity of ice, the water becoming less deep, and his seeing land bearing N.E.b.E. from him; circumstances which led him to conclude that he was at the mouth of a large bay. The same land, which we had now in sight, proved to be one of several islands, and I gave it the name of Baffin Island, out of respect to the memory of that able and enterprising navigator. The south-easternmost land in sight was that about Cape Comfort, which Baffin considered in lat. 65°, long. 85° 20′. Our angles and observations place it in 64° 54′, and 82° 57′. Between Baffin Island and the high land of Southampton Island, from which points the discoveries of the Mon. 6.

1821. August. present Expedition commence, there was a considerable interval to the northward and westward, where no land had as yet appeared. We could not, therefore, but entertain very sanguine hopes that this opening would be found to communicate with, and even to be a continuation of, the Frozen Strait, as Middleton himself had suggested. In the evening, the sky became overcast, the wind being southerly; and between eleven P.M. and midnight, several vivid flashes of lightning were seen to the westward, and succeeded by hard rain for some hours.

Our progress was now so slow, owing to constant interruption by ice, that
Thurs. 9. on the 9th, at noon, we had only reached the lat. of 65° 34′ 28″, and long. 82° 24′ 12″, our soundings being one hundred and fifty fathoms muddy bottom. The northern land in sight, which now first seemed to consist of islands, appeared low in comparison with the coast of Southampton Island, the latter rising to a considerable height above the sea, and having two hills very conspicuous from the eastward, forming a sort of saddle, not unlike that of the Mormond Hills over Buchaness. In the afternoon we once more entered the ice, which favoured us by opening more and more as we advanced; so that we succeeded in making several miles to the westward, and were enabled to keep the ships under way and in open water during the night, tacking off and on near a small rocky islet. Three miles to the south-east of this, we had one hundred and one fathoms, and could detect no current by a boat moored to the bottom.

Frid. 10. The necessity of carrying easy sail on account of the islet, which, for two or three hours, it was too dark to distinguish, prevented our making any progress to the westward during the night. In passing to the southward and eastward of the rocky islet, we had thirty fathoms at the distance of a mile and a half, and the boats being sent to sound on its southern and western side, no bottom was found with thirty-five fathoms at about the same
Sat. 11. distance. Towards the evening of the 11th, we succeeded in getting in with the northern land, and at twenty minutes after nine P.M., being close to a small rock or islet, which lies about a mile and a half off the shore, I landed upon it, accompanied by a large party of officers, who volunteered to man the boat. We found it to be about one-fifth of a mile across, consisting entirely of gneiss-rock, rounded on the surface, and with a little moss and a very few other plants growing in crevices where water had lodged. We saw the tracks of deer upon some moist sand, and a rude circle of stones, being probably the remains of an Esquimaux summer habitation. From twenty minutes after

nine till ten P.M., the tide rose one foot, the stream setting to the westward in the offing, as, indeed, it had done about the same time for the two preceding tides, so that little doubt could be entertained of the flood-tide coming from the eastward in this place. At eleven P.M., soon after we returned on board, a fresh gale suddenly came on from the north-west, obliging us to make the ships fast to the largest floe-piece that happened to be near us, as the best means of holding our ground. 1821. August.

On the morning of the 12th, the good effects of the north-westerly gale were very apparent; for, although we had drifted two or three leagues back to the eastward, the main body of the ice, consisting mostly of pieces smaller than that to which we were attached, had gone much faster, leaving a large space of clear water for us to work in. It may here be observed that, in the course of our endeavours to get to the westward, as well in this voyage, as in that of 1819-20, a westerly wind, though blowing directly against us, was always found ultimately to be the most favourable to our purpose, as it brings away large bodies of ice from that quarter, and consequently leaves a considerable interval of open water. The most precious opportunity to seize, therefore, in this navigation, is at the springing up of an easterly breeze after a gale from the opposite quarter, at which time, if a ship be fortunately unhampered, considerable progress may generally be made. Not a moment of this favourable interval must be lost, as the ice invariably closes again in a few hours after the change of wind, which is besides usually attended by thick weather. Sun. 12.

The gale having somewhat moderated at noon, we cast off and made sail; and, after carrying a press of canvass during the day, had made considerable progress by the evening, when the ice becoming close obliged us to make fast; in doing which the Hecla narrowly escaped a heavy "nip," by the sudden meeting of two floes. The weather was beautifully clear, giving us a fine view of the land, which now began to excite in us more and more interest, almost at every step of our progress. A headland, bearing from us S. 87° W., and named, by Mr. Hooper's desire, Cape Welsford, appeared very decidedly to form the northern termination of Southampton Island, leaving an opening of a league or two in width, but broken by two or three islands between it and some high land to the northward; a promontory on this shore, forming the northern point of the Strait, was named after Mr. Deas Thomson, one of the commissioners of His Majesty's Navy. This land, however, did not appear to join that which we had lately

1821 August. left to the north-east of us, there being between them a very wide opening in which nothing but a sea incumbered with ice was visible from the mast-head. The accounts given by Captain Middleton of the latitude of the western entrance of the Frozen Strait are so confused, and even contradictory *, that the present appearance of the land perplexed me extremely in deciding whether or not we had arrived at the opposite end of the opening to which he had given that name. That immediately before us to the westward, though it agreed in latitude within five or six miles with the southernmost parallel he has assigned to it, appeared much too narrow to answer his description of the passage we were in search of. Upon the whole, however, I thought it most probable that this was the strait in question; and as, at all events, the opening between Southampton Island and the land to the northward of it, in whatever latitude it might be found and whether wide or narrow, was the passage through which it was our present object to penetrate into Repulse Bay, I decided on using our utmost exertions to push through the narrow strait now before us.

The wind moderating in the evening, and the ice after sunset once more opening, enabled us to make another mile or two to the westward, after which we lay to for the night. A great number of narwhals were playing about the ship during the night, but they were, as usual, so wary that our boats could not approach them. We remarked that scarcely in any part of the polar regions previously visited, had we seen fewer birds than for some days past; a solitary glaucous gull, a hawk, and a boatswain being all that had been noticed. The moon, in rising this evening, was curiously distorted by refraction into the irregular shape of a shrivelled orange.

Mon. 13. On the morning of the 13th the ships were pushed as far into the ice as the closeness of it would allow, which brought us within ten or twelve miles of the narrow part of the strait before us; and, as we could still see no land from the masthead when looking directly through it, we were naturally confirmed in the supposition that this was the Frozen Strait, beyond which we

* As an instance of this, in the Furnace's log of August the 8th, Captain Middleton gives the latitude of his ship by observation, 65° 38′ to 65° 41′, when close off the western entrance of the Frozen Strait, which, from its south-easterly trending, is, also, the *northernmost* part of it. In his letter to Mr. Dobbs, however, he says it is in 66° 40′, and, just before, that it is near the sixty-seventh degree of latitude. Neither the one nor the other has proved correct; but I have here quoted them, to explain the doubts which these contradictory statements led me to entertain at this juncture.

should have immediate access to the northern part of the Welcome. We observed something very like smoke rising from about Cape Welsford, which, being confined to one spot, was thought likely to be occasioned by the fires of natives. Nothing could exceed the fineness of the weather about this time; the climate was, indeed, altogether so different from that to which we had before been accustomed in the icy seas, as to be a matter of constant remark. The days were temperate and clear, and the nights not cold, though a very thin plate of ice was usually formed upon the surface of the sea in sheltered places, and in the pools of water upon the floes. After sunset we descried land, appearing very distant, through the middle of the strait, which we considered to be that on the American side of the Welcome. At this time, also, we observed some ice in the centre of the strait, heavier than that which covered the rest of the sea, and apparently aground in shoal water, as afterwards proved to be the case. 1821. August.

On the morning of the 14th, the ice continued almost as close as before about the ships, but the wind being easterly and some clear water beginning to appear in the direction of the strait, we were encouraged to make an attempt to move. The signal was, therefore, made to warp with lines and hawsers, but we met with no success to repay our endeavours, the Hecla having rather lost than gained ground in the course of the day, and the Fury, though favoured by slacker ice, not having advanced one mile after nine hours' labour. We, therefore, made fast to a floe three quarters of a mile in length, and almost as much across, our soundings being one hundred and ninety-two fathoms, at the distance of seven miles from a high island which occupies a large portion of this passage on its northern side. A great variety of coral, shells, and marine insects were here brought up from the bottom, which will be described in another place. Tues. 14.

The wind shifted to the westward and increased to a strong breeze in the night, in consequence of which we had, on the morning of the 15th, unavoidably drifted back five or six miles to the eastward. This temporary loss of ground was, however, as usual, more than compensated by a large space of clear water now seen in-shore, into which, after several hours' exertion, we succeeded in getting the Fury, at three P.M. We were here within a league of a remarkable headland on Southampton Island, which I named Cape Bylot, as being probably the westernmost land seen by that navigator in 1615. In the meantime, the Hecla, still continuing very closely beset, had, in spite of every exertion, drifted back with the ice several miles to the northward Wed. 15

1821. August. and eastward, so that, in the course of the evening, we lost sight of her altogether. This latter circumstance was, however, owing in great measure to the extraordinary refraction upon the horizon, making terrestrial objects at the distance of six or seven miles appear flattened down or depressed, as well as otherwise much deformed.

At six P.M., having beat up within five or six miles of the entrance of the strait, and being anxious to sound the channel, which appeared narrow but without any ice in it to offer us obstruction, I left the ship in the gig, accompanied by Mr. Ross, for this purpose. The current appeared to be setting to windward, or to the westward, but the fresh breeze was unfavourable for ascertaining its exact direction or velocity. Besides the high island before mentioned, are two smaller ones to the southward of it, which contract the channel still more between it and the south shore. These islands I named after LIEUTENANT NIAS. The heavy ice which had before been observed from the masthead, now formed a very conspicuous object, the rest having drifted out of the strait; we therefore rowed directly towards this, as it seemed to form the northern boundary of the navigable part of the channel. Reaching it at thirty minutes after nine, we found it aground as we had conjectured, two of the black rocks on which it rested being now just above water, and a tide of a knot and a half setting past them to the eastward. These dangerous rocks lie nearly midway between the smallest island and Cape Welsford, being rather to the westward of the narrowest part. Within fifty yards of the dry part of them was a depth of ten to twelve fathoms, and from five to seven at half that distance. As it was not possible to complete the examination of the channel in time to beat the ship through till the morning, I made the appointed signal for the Fury to stand off and on during the few hours of dusk, and determined on taking up our quarters on shore at Cape Welsford, in order to re-commence our examination as early as possible in the morning. In standing across to the Cape, we could find no bottom with thirty-five fathoms of line, and, indeed, in the whole of this part the water was subsequently found to be very deep.

The part of Southampton Island on which we landed is about a thousand feet high, and composed of gneiss. Every here and there, along the shore, between the projecting points of rocks, is a small cove or bay, having a beach composed of small pieces of limestone, which make the water almost as white as milk. Landing in one of these coves, we carried the boat above high-water mark; and, making a tent of her sail, lay very comfortably

during the night. When the boat first touched the beach, we observed an innumerable quantity of the little fish called sillocks, swimming about, several of which were killed by the boat-hooks or taken in the hand. A great number of white whales, seals, and narwhals, were also playing about near the beach during the night. The white whales were the most numerous; the noise these animals made resembled a hoarse low-toned barking more than any other to which I can compare it; and we remarked that their colour was whiter than any we had before seen. 1821. August.

The weather continued clear and fine, enabling us to obtain good observations by the moon and stars. The latitude by two meridian altitudes was 65° 28′ 13″; the longitude, by chronometers 84° 40′ 07″; and the variation of the magnetic needle 50° 18′ 26″ westerly. The aurora borealis was visible during the whole of the night, consisting of many luminous patches, or *nebulæ*, having, when viewed together, a tendency to form an arch, and extending from south by east to south-west and sometimes to west, its height in the centre being 15°. From this arch pencils of rays shot upwards towards the zenith. It differed from any other phenomenon of this kind, that I have seen, in being at times of a beautiful orange colour.

As soon as it was daylight, Mr. Ross and myself ascended the hill above our sleeping-place, from whence we could perceive land stretching round to the westward and northward, so as apparently to leave no opening in that quarter. We were much surprised at the low and yellowish appearance of this land, both of which circumstances we were at a loss to reconcile with Captain Middleton's description of the bold shore of the American continent, on the western side of the Welcome about this latitude. It was pleasing, however, to observe a large expanse of sea wholly unencumbered with ice, in the direction we were now about to pursue; and we, therefore, hastened to the beach to continue the survey of the strait, that no time might be lost in taking advantage of this favourable circumstance. We here noticed several Esquimaux circles of stones, but all very old ones, nor could we discover any recent traces of inhabitants, notwithstanding the smoke which we thought we had observed from the ships, at no great distance from this spot. In the fissures and hollows between the rocks, the moss, sorrel, ground willow, and a few other plants were abundant, and specimens of every kind were brought on board. On our return to the beach we found the boat's crew amusing themselves in catching sillocks, of which they had discovered great numbers left by the tide in pools upon the rocks, and had Thur. 16.

1821 August. already caught more than a large bucket full. They proved most excellent eating and, although we were not badly off for fresh provision, were considered by us a very agreeable variety. Every possible care was taken in observing the time and direction of the tides in this place, that phenomenon having now assumed a more than ordinary interest. It has already been remarked that, at half past nine the preceding evening, we had found a tide setting to the eastward past the Black Rocks, at the rate of a knot and a half. At ten P.M., when we landed, the tide was rapidly rising and continued to do so till two in the morning, during the whole of which time a few pieces of ice were occasionally driving to the eastward through the channel. From these observations it was not unreasonable to surmise that the flood-tide came from the westward, though subsequent experience, as will presently appear, proved this conjecture to be erroneous. If the intervals between the tides be regular, the time of high water on full and change days of the moon, at Cape Welsford, would appear to be a quarter past twelve. The perpendicular fall of the water at this morning's tide, which was a spring-tide, the moon being two days old, was sixteen feet seven inches.

After completing our observations and examination of the channel, we reached the ship by eight A.M., the Fury having, with great attention, been kept close off the entrance of the strait during the night. The Hecla had at this time just hove in sight under a press of sail to the eastward, having at length, with much difficulty, succeeded in getting into clear water. While engaged in beating through the channel with a considerable tide against us, I despatched Mr. Crozier to bring on board sand for the decks, and provided him also with nets for catching sillocks, of which he procured enough to serve the messes of the officers and ships' company for two dinners.

In beating through this channel, the breadth of which is a mile and three quarters from Cape Welsford to the Black Rocks, we discovered no danger on the south side, where we had ninety fathoms at two-thirds of a cable's length from the shore, nor any on the northern side except the rocks themselves, which are completely covered at high water. No soundings could be obtained with one hundred fathoms of line anywhere near the middle of the channel, though the water is remarkably light-coloured at a considerable distance from the shore, owing probably to the same cause as that I before noticed, as occurring near the beach in all the little bays along this coast.

As soon as we were through the passage, I despatched Mr. Bushnan to the Hecla, in the small boat, with a plan of the channel, and some directions

to be attended to in coming through, for Captain Lyon's guidance, and then stood on to the westward, in order to make out the land in that quarter. The appearance of this land continued to perplex us more and more as we advanced, as, instead of any opening corresponding to Wager River, which lies about this latitude, and the high shores by which it is bounded, we soon discovered before us a continuous line of low yellow-looking coast, extending all round so as to meet the high land of Southampton Island to the south, as well as that to the north, and leaving no perceptible outlet by which we could find our way to the westward. In standing across we frequently observed a great ripplingon the water, and a boat was sent to sound; but we could find no bottom with forty to fifty fathoms of line, till within five or six miles of the low shore, when we rather suddenly obtained soundings in twenty fathoms, on a gravelly bottom. We then kept away, in a line with this shore, to the northward, and at length perceived something like a small opening in the north-eastern corner of what otherwise appeared a large bay. The wind veering to the southward, however, with rain, and every appearance of a dirty night, and the Hecla not having yet got through the strait, in consequence of light and baffling winds, I considered it most prudent to run in under the western shore, and to anchor for the night, which we accordingly did at thirty minutes after seven P.M., in thirteen fathoms, on a bottom of mud and shells, at the distance of one mile from the beach. The navigation was here perfectly unobstructed by ice, of which none was to be seen, except here and there a straggling piece which appeared to have been lately detached from the shore. A great number of white whales were observed in the course of the day, and the cackling of geese was heard on shore the whole night. The Hecla, having succeeded in getting through the strait, joined us an hour before midnight. 1821. August.

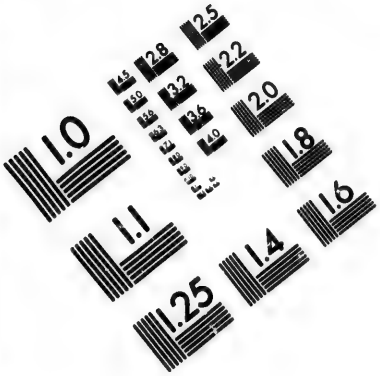
On the morning of the 17th, the weather being too foggy to move, parties from both ships went on shore to examine the country and to procure specimens of its natural productions. We landed on a flat and very rough beach, principally composed of sharp masses of limestone, over which, at low water, it was difficult to drag the boats. Mixed with these were some pieces of gneiss and granite, but the lime is by far the most abundant. This land, which rises gradually from the beach, but is in no part more than sixty or seventy feet above the level of the sea, was full of ponds of fresh water, and in almost all the intermediate parts there was abundance of fine vegetation, consisting of grass, moss, and various other plants, of which specimens were Frid. 17.

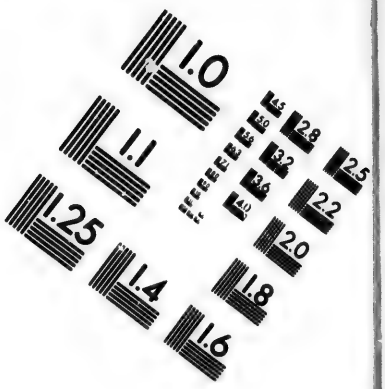
1821. August. brought on board. A splendid specimen of the *colymbus arcticus*, and also a red-throated diver (*colymbus septentrionalis,*) were obtained by the gentlemen of the Hecla. The former though very wild were numerous, as were also plovers of two kinds, the *charadrius pluvialis*, and *hiaticula*. Nine or ten deer, of which several were fawns, with a large buck as usual bringing up the rear of the herd, were met with by some of our people, but they would not suffer themselves to be approached within gun-shot. A great number of fine black whales were playing about near the beach, and, from the total absence of ice, would have afforded a rich and easy harvest to a fishing ship. Several seals were also seen, and we were in hopes of finding some sillocks near the shore, but had no success with the seine, which was twice hauled upon the beach. We met with the remains of several Esquimaux habitations in different places along the shore, and in one spot a conspicuous mark had been left by these people, consisting of several stones placed one over the other. The beach being favourable for measuring a base, we ran off one above a mile in length, and obtained the necessary angles for the survey, together with the usual observations for fixing our geographical position. The latitude of our landing-place was 65° 27′ 37″, the longitude, by chronometers, 85° 15′ 35″, the dip of the magnetic needle 87° 27′ 52″, and the variation 47° 34′ 05″ westerly. It was low water by the shore at forty-three minutes past eight in the morning, by which and the preceding night's observation, the time of high water on full and change days of the moon appears to be about twenty minutes past twelve. The perpendicular fall of tide this morning measured rather more than sixteen feet, so that the highest spring tides will probably amount to eighteen.

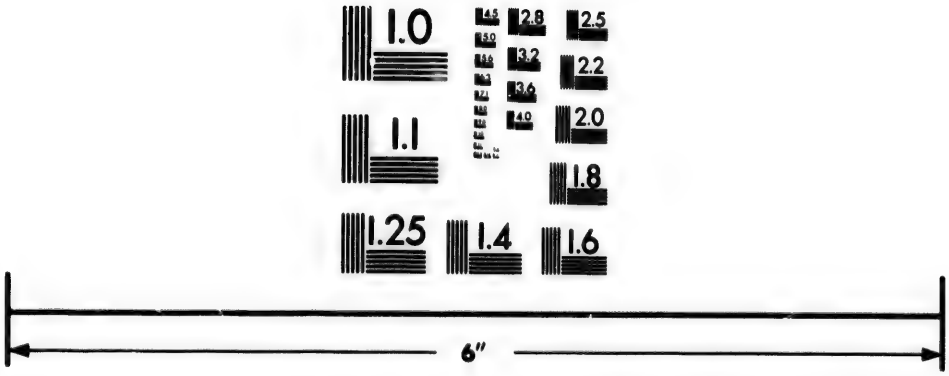
The weather having gradually cleared up as the sun got higher, we returned on board at half past nine and, getting immediately under way, stood under all sail to the N.N.E., where alone, as on the preceding evening, there appeared the smallest chance of finding any outlet. Our late excursion on shore had served, among other objects of interest, to furnish some clue to the mystery respecting the place into which we had found our way, and which had evidently never before been visited by Europeans. Our parties who went farthest inland reported that they could see no termination to this kind of shore to the westward, nor any appearance of high land beyond it. It was now evident, therefore, that this low shore was the same as that which Captain Middleton described as " a low shingly beach, like Dungeness," and along the *western* side of which he sailed up the Welcome,

without suspecting its disjunction, in any part, from the high land of Southampton Island at the back, which, indeed, he could not have discovered without travelling several leagues inland from that side, until he had reached the shore of the bay we had lately entered. 1821. August.

In approaching a low point, which forms one side of the apparent opening to the N.N.E., before alluded to, and which I subsequently named after Mr. Henderson, we gradually shoaled the water from eighteen fathoms, which we had soon after leaving our anchorage, to eight. After rounding the point, it seemed doubtful whether there was any passage to the northward, the interval between the two lands being now contracted to two miles, and becoming more and more narrow as we advanced. After passing the point, where, at two P.M., we found the flood-tide setting to the northward, at the rate of [illegible] mile and a half an hour, we again deepened the water to ten and twelve fathoms; but, in continuing our course half an hour longer, again shoaled it gradually to five and four fathoms, and tacked in eighteen feet. The ship was unusually slack in stays, owing, perhaps, to her hanging in the long tangle-weed, of which great quantities were always floating about here. At this time the two lands seemed to approach within a mile of each other, with a number of little low stony islands occupying a great part of that space, and shelving points on each side, so that there seemed little chance of finding a passage for ships in that direction. Having sent a boat to sound, we tacked, and again ran in till we had shoaled the water to four fathoms, and then once more stood to the southward. Finding, by the signals made from the boat, that nothing could be done till the channel, if there were any, had been regularly examined and buoyed off, I directed the ships to be anchored as soon as we had got into twelve fathoms; and at four P.M., left the Fury, accompanied by Mr. Henderson, and by Lieutenant Hoppner in a second boat from the Hecla, in order to conduct the intended examination. This did not, however, occupy so much time as we expected, for in less than two hours we had ascertained, beyond a doubt, that no practicable passage for ships existed in this direction. The tide was here so strong, that, with sails and oars, we could scarcely stem it; and as we approached the narrowest part, it was running more than six knots, obliging us to pull in-shore, into the eddy of the point, before we could make the smallest progress. We then with difficulty rowed to an islet, about which fresh rocks and shoals were almost every minute shewing themselves, as the tide fell; so that, at







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1821. August. half-past six, when it was very little more than half ebb by the shore, there were, in every direction, numberless shoals and islets, past which the tide was rushing with all the violence and irregularity of a race, except in a small channel, which, in the only part where a ship could have floated, did not exceed three hundred yards in width. In such a channel, rendered, as it was, doubly dangerous, by the rapid tide which rushed through it, and which would render a ship perfectly unmanageable, it would have been highly imprudent to risk a passage; and as, under these circumstances, it would have been a mere loss of time to continue the examination of this place, whatever curiosity we might feel to ascertain its communications, I determined to return on board, in order to take advantage of the remaining part of the ebb-tide, it being our next object to endeavour to find a passage into the Welcome, round the *south* side of the low land to the westward of us. I cannot, therefore, decidedly say, whether there exists a passage of any kind through to the northward in that place or not, but it is possible enough that there may be one, though very narrow and shoal.

The whole of the bottom here consists of a flat gneiss-rock, over which, as well as on the shoals and islets, lie innumerable fragments of limestone, of a white colour. A mark, consisting of stones piled up, had been set on each side of the narrow channel, as if for the purpose of pointing out the safest part for canoes, when the points are covered by high spring tides. By deep wading, for the nature of the bottom and the rapid fall of tide did not allow us to risk the grounding of the boats, we got to the islet, where we found two jaw-bones of a whale placed erect on a pile of stones, together with a quantity of whalebone; the whole structure being so contrived, when viewed at a little distance, that it bore a striking resemblance to the figure of a man holding the blades of bone in his hands. Among the numerous marks of the kind which we afterwards met with in various parts of the sea-coast, it was not uncommon to observe some which evidently appeared to have reference to the same whimsical intention, and which, till habit had rendered them familiar, we often mistook for men. Being in want of whalebone for making brooms, we took a few of the blades, leaving as an equivalent a boarding-pike stuck upright in the pile; we then returned to the ships, which we reached at eight P.M. The wind having now become very light and variable, and the navigation of this place requiring the utmost command of the ships, I was reluctantly compelled to defer moving till the morning tide. It was low water at a

quarter past nine this evening, after which time the tide began almost immediately to run to the northward. Several rein-deer were seen on the western or low shore in the course of the day. 1821. August.

The weather was cloudy and nearly calm during the night, and a thick fog came on the following morning. We weighed, however, at high water and beat to the southward with a light air from that quarter, regulating our course by the lead which is here a faithful guide. At nine A.M., the wind shifted to the N.W., and the fog was succeeded by rain for an hour or two, after which the weather became dry, clear, and pleasant. As soon as the favourable breeze sprung up we stood under all sail for what at first appeared to be the south-eastern extreme of the low land, more of which, however, came in sight as we advanced and as the weather became clearer; till at length, at one P.M., it was but too evident that we were once more embayed, the low beach running quite round to Southampton Island, about nine or ten miles to the southward of us. I therefore ordered the ships to be anchored, being in thirteen fathoms, on a bottom of mud and shells, at the distance of two miles and a quarter from the high or eastern land, and about four from the other: and in order to leave no doubt of the continuity of land, as it appeared from the ships, I despatched a boat from each under the command of Lieutenant Reid, with directions to row close to the beach, completely round the bay, making such hydrographical and other remarks as circumstances would permit. Sat. 18.

In the mean time Captain Lyon and myself went on shore to the eastward, in order to obtain from the hills a view of the surrounding lands. It may here be observed that, on this eastern side of the bay, there is a strip of low and lightish-coloured land a mile or two in breadth, extending from the foot of the hills to the sea. On landing we found this low shore to consist of whitish limestone in schistose fragments, alternating with narrow strips of verdure, and some ponds of water; while the rocks at the back, which rise eight or nine hundred feet above the level of the sea, are composed of gneiss, with here and there a quantity of limestone in heaps, and in many places large masses of quartz, mica, and red feldspar, lying detached upon the surface. Near the top of the hill we also met with a considerable quantity of magnetic ironstone. We saw no living animal but three small birds. Stones placed erect in different parts, and even at the very top of the hill, shewed that the Esquimaux had visited these shores, but we observed no recent traces of them.

1821. August.

Lieutenant Reid returned on board at eleven P.M., having determined the continuity of land all round the bay, by rowing close in-shore the whole way. With a view to ascertain, if possible, the breadth of the low land, by which the geographical position of the eastern boundary of the Welcome in this latitude might have been laid down, Lieutenant Reid went on shore near the head of the bay; but it proved so level, extensive, and low, that he was unable to obtain any view to the westward. He considered the southern boundary of the bay to be ten miles from the station of the ships. The soundings are regular, and the anchorage good in every part which our boats visited, making this, perhaps, one of the most secure and extensive harbours in the known world. Scarcely a piece of ice was seen in any part of it, and the appearance of the beach, on which were no heavy grounded masses, shewed that here, as in all other well-sheltered harbours or inlets in the polar seas, little or none had ever found access, except that which is formed in it, and which the annual process of dissolution has usually destroyed before this period. In the examination of any inlet in these regions there is, indeed, no indication more unpromising, and which, if any thing short of absolute examination could be admitted, might be considered so conclusive against the existence of a passage, as the absence of "old" ice, or, at least, of those traces of it, which are evident upon every shore to which it has occasionally a ready access. Of this fact, the remaining part of the present season's navigation will afford a striking proof.

This magnificent bay, possessing so many advantages that would render it invaluable in a more temperate climate, the officers honoured with the name of the Duke of York's Bay, in consequence of the Expedition having first entered it on the birth-day of His Royal Highness.

It being now evident that the inlet into which, in the course of our endeavours to penetrate to the westward, we had unavoidably been led, would afford us no passage in that direction, I gave orders for weighing at the turn of tide; being determined at once to run back through the narrow channel by which we had entered, and to push to the northward without delay, in search of some more favourable opening. The tide, in our present anchorage, flowed to the southward and ebbed to the northward; and it now became apparent that, notwithstanding the care taken to ascertain the direction of the flood-tide in the entrance to this bay, we had been mistaken in supposing it to come from the westward. For, as the tide of ebb unquestionably ran to the southward about Point Henderson, and no opening occurs

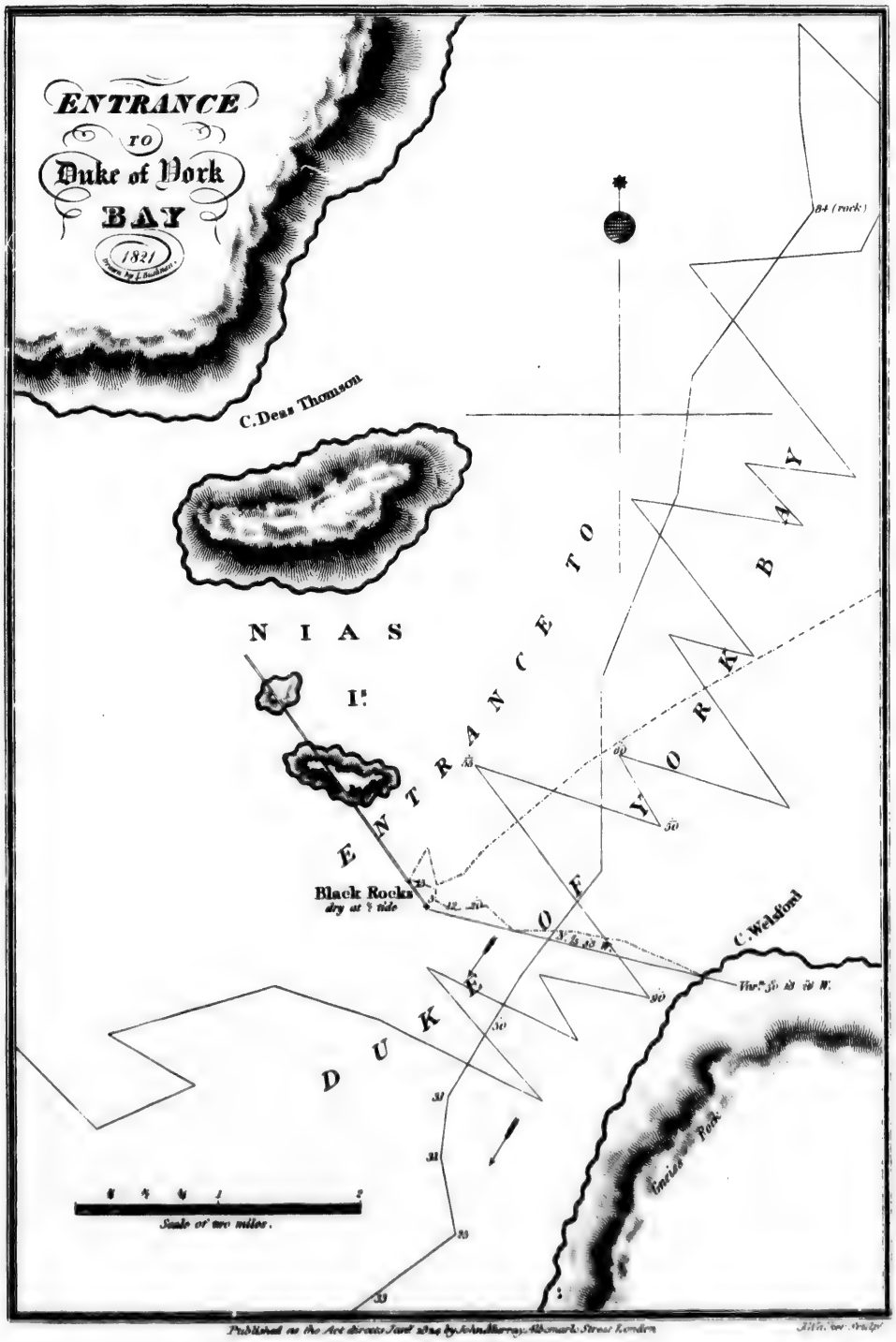
any where else, it follows that the flood must of necessity come in from the eastward. The comparative slowness of its rate of running through the narrow passage is easily accounted for by the depth of the channel through which it flows, (exceeding one hundred fathoms,) compared with the bay it has to fill, and which is shallow in many parts. The error into which I had fallen on this occasion has been here particularly noticed, as furnishing another instance of the difficulty of ascertaining the true direction of the flood-tide, without any knowledge of those local circumstances which produce, on many coasts, what seamen call a "tide and half-tide," or "tide and quarter-tide," and which one or two cursory and unconnected observations cannot always detect. In the present instance it appeared that the stream of ebb was still running past the Black Rocks, one hour and three quarters after the time of low water by the shore; how much longer than this it continued to run we had not an opportunity of ascertaining. 1821. August.

The weather was overcast during the night, and a calm prevailed till half-past six on the morning of the 19th, at which time we weighed with a light air from the N.W., and stood towards the passage. At half past eight, we discovered a shoal, dry at half-tide, which lay almost directly in our way, and soundings were found by a boat, from twelve to fourteen fathoms, at the distance of a mile on its eastern and south-eastern sides; but the wind again falling just as we got between the shoal and the land, and the ebb-tide having just done, we anchored at ten A.M. in twelve fathoms and a half, being about the middle of the channel, which is here between three and four miles in breadth. Mr. Fisher and myself then landed on the shoal, of which the position was favourable for making observations, and for the intersection of the other angles obtained for the survey of the bay. We found it to be thirty or forty yards in length at low water, and composed of rounded lumps of lime, (many of which contained fossil remains,) a specimen or two of black marble, and some pieces of granite and gneiss. The latitude observed was 65° 20′ 56″; the longitude, by chronometers, 84° 57′ 04″.5; and the variation of the magnetic needle, by the sun's azimuth at noon, 46° 25′, westerly. While we were waiting for the meridian altitude, Captain Lyon, who had joined us in his own boat, employed his people in sounding round the shoal which is in most parts bold. We built a pile of stones on the middle of it, but this was altogether covered about one P.M., or at half-flood. In the mean time, a number of our gentlemen had landed on Southampton Sun. 19.

1821. August. Island, bringing off specimens of the plants and minerals, which were much the same as those collected the preceding evening. Some of the party confidently reported that they had heard the shouting of natives, though they could not meet with them. From this circumstance, as well as from the smoke which had before been observed near this place, we thought it likely that some Esquimaux were not far off, but that, never having before communicated with Europeans, they had perhaps been scared at our approach.

A breeze from the S.W., which sprung up at two P.M., enabled us to weigh before high water; when, having picked up our boats, we made all sail for the channel, through which we passed at half past four with a strong breeze. The Black Rocks were at this time totally concealed, and the ice quite washed away from them by the last spring-tides, so that, had we not before known their situation, lying, as they do, almost in mid-channel, we might perhaps have run directly upon them. The mark for being abreast of them is shewn in the accompanying plan, and to any ship visiting this bay will be useful with a turning wind. When the breeze is free, the only direction necessary is to keep about three-fourths over from the small islet to the high southern shore, which is bold quite close to the rocks. On hauling to the northward we found the position of the ice very unfavourable to our progress in that direction, and the wind increasing to a strong breeze, with every appearance of bad weather, we reefed our sails, for the purpose of standing off and on during the night, with the hope that this wind would in a few hours clear the shore along which it was now our object to sail. After dark it began to blow stronger with rain and some sea out of the bay, obliging us to carry a press of canvass, and to keep all hands on deck, to enable us to weather the ice under our lee.

Mon. 20. After midnight the weather moderated a little, and the wind drew more to the southward, giving us some shelter under the lee of the land till daylight, when we found that the breeze had done us all the service we had anticipated, by opening a wide passage between the land and the ice to the northward. Not a moment was lost in availing ourselves of this opportunity, and we ran rapidly and almost without obstruction along the land, passing numerous islands and bays with which this shore abounds. Piles of stones were seen, as usual, in various places along the coast. The eastern shore of this new strait still appeared continuous, and both lands began to trend more to the westward. In the course of the afternoon we passed several streams of ice, much of which was



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covered with sand, but the late south-west breeze having drifted the main body of it over to the opposite coast, we met with no material impediment. At a quarter before five, P.M., in passing within an island, to which from subsequent occurrences the name of Passage Island was afterwards given, a violent rippling was observed a-head. The boats were instantly lowered to sound the channel, and the ships put about till it was ascertained that there was no shoal water; when we again tacked, keeping the boats a-head, and continuing under easy sail till past the rippling, but having no less than twenty-five fathoms in any part. 1821. August.

Passage Island, which is blackish in its appearance, has a small rocky islet of a yellow colour on its eastern side, with which we afterwards as unexpectedly as unwillingly became better acquainted. There are also two or three small islands lying nearly abreast of it, off the Southampton Island shore, and as we proceeded several others were brought in sight, lying in a bay near the west extreme, which we passed in the evening, having before us a sea entirely clear of ice and, we were willing to hope, of land also. Hazy weather, however, such as had prevailed during the greater part of the day, with occasional rain, is very favourable to such hopes, and often, therefore, brings much disappointment. At seven o'clock we plainly distinguished land, with a fog-bank hanging over it, to the westward, and, as far as the thickness of the weather would permit us to see, leaving no opening before us except for about two points in the north-western quarter. As the nights became dark for several hours at this season, and we were wholly unacquainted with the land beyond us, the boats were despatched to look for anchorage under the southern shore, where, however, the ground proved so irregular, and the bottom so rocky, that I determined to keep under way during the night. As soon as the boats were hoisted up, we stood to the westward under easy sail, and deepened the water gradually to one hundred and five fathoms, on a hard bottom. Our uncertainty respecting the true situation of the Frozen Strait, together with the want of observations during the day, left us, at this time, in doubt whether we had already penetrated through that passage, or had still to encounter the difficulties which the former accounts of it had led us to anticipate.

The wind was squally, with dark cloudy weather, during the night, and a calm succeeded on the morning of the 21st, with fog and rain. At forty minutes after eight, A.M., the tide was found to be setting W.S.W., half a mile per hour, and there was, during the forenoon, some swell from the Tues. 21.

1821. August. southward, which seemed to intimate, as was in fact the case, that we had passed the Frozen Strait, and had the Welcome open to us in that direction. A northerly breeze at length springing up gave us hopes of speedily clearing up all our doubts on this subject, and a press of sail was carried to the westward. The northern land, which now again came in sight, appeared to be continuous, and we shortly after distinguished the opening between this and the western shore seen the preceding evening, and for which our course was now directed. In the afternoon, however, the wind increased considerably, and the weather became so extremely thick with snow, which fell in unusually large flakes, that for five or six hours we ran almost entirely by the lead, which indicated deep water. Now and then, indeed, we caught an indistinct glimpse of the land on each side of us, which was sufficient to shew the extreme caution necessary in running under such circumstances. The land to the southward seemed high in its western part, and low to the eastward, and that to the northward still appeared continuous and unbroken except by islands. At thirty minutes after five, P.M., the weather being still very thick, the land was suddenly discovered a-head, and we tacked in seventy fathoms, on a rocky bottom. During the whole of this run, we scarcely saw a piece of ice, except one stream through which we passed at three P.M. At seven o'clock, there was still every appearance of a dirty and therefore of an anxious night, if we should be obliged to keep the ships under way; and it was on that account my intention to stand in towards the northern shore, and endeavour to get sight of it, so as to secure an anchorage for the night; but at a quarter before eight the weather suddenly cleared up, when we found ourselves completely surrounded by land from E.N.E. round by north to S.b.E., having unconsciously entered Repulse Bay, in which not a piece of ice was to be seen that could obstruct us in its thorough examination. I made the signal to stand off and on during the night, which proved extremely clear and fine, and directed the boats of each ship to be in readiness for landing in the morning. The latitude, by the meridian altitude of *α cygni*, was 66° 27′, which confirmed me in the belief of our being in Repulse Bay, though it afforded some ground for suspecting the accuracy of Captain Middleton's latitude.

Wed. 22. We stood up the bay towards daylight, and at seven A.M., I left the Fury, accompanied by a large party of officers, having by signal requested Captain Lyon to join us. At the same time I directed another boat to be despatched from the Hecla, under the command of Lieutenant Palmer, to row round a

small bight which appeared in the north-west corner of the bay, where alone, from one or two points overlapping each other, the slightest doubt of the continuity of land could exist. We landed upon a point just to the eastward of this bight, in which neighbourhood are several little islands and coves probably affording good anchorage, but which the more immediate objects we had in view did not permit us to examine. Upon the point we found the remains of no less than sixty Esquimaux habitations, consisting of stones laid one over the other in very regular circles, eight or nine feet in diameter, besides nearly a hundred other rude though certainly artificial structures, some of which had been fire-places, others store-houses, and the rest tolerably built walls four or five feet high, placed two and two, and generally eight or nine feet apart, which these people use for their canoes, as well as to keep the dogs from gnawing them. A great many circles of stones were also seen more inland. About three miles to the N.N.W. of our landing-place our people reported having seen fifteen others of the same kind, and what they took to be a burying-ground, consisting of nine or ten heaps of large stones, three feet in diameter and as many in height. Under these were found a variety of little implements, such as arrow or spear-heads tipped with stone or iron, arrows, small models of canoes and paddles, some rough pieces of bone and wood, and one or two strips of asbestos which, as Crantz informs us, is used by the natives of Greenland for the wick of their lamps, and for applying hot, in certain diseases, to the afflicted part*. Under these articles were found smaller stones, placed as a pavement, six or seven feet in length, which, in the part not concealed by the larger stones, was covered with earth. Our men had not the curiosity or inclination to dig any deeper, but a human skull was found near the spot. Our people also reported that, several miles inland of this, they observed stones set up as marks, many of which we also met with in the neighbourhood of the point. Of these marks, which occur so abundantly in every part of the American coast that we visited, we could not then conjecture the probable use, but we afterwards learned that the Esquimaux set them up to guide them in travelling from place to place, when a covering of snow renders it difficult to distinguish one spot from another. We found among the stones some seals' bones, with the flesh still upon them, which seemed to indicate

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* Crantz, I. 296. The Esquimaux on this part of the coast use it only as sticks for trimming their lamps.

1821. August. that the natives had occupied this station during a part of the same season; and judging from the number of circles collected in this place, and still more from our subsequent knowledge of these people, it is probable that not less than one hundred and twenty persons had taken up their residence here at the same time.

The land on the northern and western sides of Repulse Bay does not exceed six or seven hundred feet in height, while that on the south rises, perhaps, full a thousand feet above the level of the sea. The shore on which we landed is composed of gneiss rock, traversed by broad veins of red feldspar running in almost every direction. Quartz and mica also occurred in separate masses, as well as white limestone lying in loose fragments on the surface. Before we landed in the morning the snow which fell the preceding day had quite disappeared from the north shore, and by noon the land all round the bay had resumed its dark appearance. We saw several rein-deer and hares, some ducks, dovekies, knots, (*tringa cinerea*,) snow buntings, and a white owl. An ermine, (*erminea mustela*,) a few ptarmigans, and a hare, were killed. Mice, (*mus hudsonius*,) were very abundant, particularly among the stones of the Esquimaux tents. I do not know whether the seals' flesh remaining on some of the bones was any attraction to them, but it is certain that two of them being put together into a cage, the larger killed the other and eat a part of it. Several black whales were seen in the bay in the course of the day. There was here no want of vegetation, which indeed was in many parts extremely luxuriant; and specimens of every plant were carefully preserved by our numerous collectors.

The latitude observed on shore was 66° 30′ 58″, being the first observation we had yet obtained so near the Arctic Circle, but far to the southward of that given by Captain Middleton *. The longitude, by chronometers, was 86° 30′ 20″; the dip of the magnetic needle, 88° 07′ 28″; and the variation 48° 32′ 57″ westerly; being only a degree and a half less than that observed by Middleton in 1742. In observations formerly made upon the variation of

* The difference amounts to about twenty miles. It is but justice, however, to the memory of Captain Middleton to add, that several miles of this error may have been occasioned by the imperfection of nautical instruments in his day, combined with the unavoidable inaccuracy of observations made by the horizon of the sea, when encumbered with much ice. On this latter account, as well as from the extraordinary terrestrial refraction, no observation can be here depended upon, unless made with an artificial horizon.

the needle in this neighbourhood, a considerable error may have been occasioned by the effects of local attraction, produced by the iron in the ship, a phenomenon of which navigators were not then aware. If the magnetic pole were at that time situated near its present position, a difference of no less than *four or five points* of the compass may have arisen in consequence of a change in the direction of the ship's head from east to west, as was now the case with us. No accurate deduction therefore can possibly be made, respecting the change which the variation has undergone, from observations made on board a ship at an early period, especially in the neighbourhood of either of the magnetic poles of the earth *. 1821. August.

The phenomena we had, for some time past, observed in the traversing of the compasses on board the ships, were similar to those noticed on the preceding voyage, though they had not as yet occurred to so great an extent. In proceeding to the westward, up Hudson's Strait, where, by a gradual approach to the magnetic pole, the dip of the needle regularly increases, a proportional increment in the effects of local attraction was also found to take place, displaying itself as well in the amount of what has been termed the deviation, as by the sluggishness with which the compasses traversed. About the time of our making Southampton Island, the card of Walker's azimuth compass which, on account of its graduated metal rim, is more heavy than the others, became too sluggish to depend upon. Those of Alexander, which were the lightest and best of our steering compasses on the common construction, began also to require constant tapping or shaking. Captain Kater's excellent azimuth compasses, which unite lightness, sensibility, and accuracy, required, though in an infinitely smaller degree, the same precautions to assist them in traversing. These phenomena, the observations on which are given in detail in the Appendix, had for the present season attained their maximum, Repulse Bay being the nearest approach that can be made to the magnetic pole, by sea, in this direction. Accord-

* Middleton has, in his published log, set down the variation in Repulse Bay as 50° west, and at Cape Frigid 45°, making a difference of five degrees in a distance of eleven or twelve leagues. Rapid as the changes in the variation are here, this difference appears to me too great to attribute to any thing but a change in the Furnace's course; and I cannot but consider it as extremely creditable to Middleton to have faithfully recorded a fact, of which, at that time, no probable explanation could be given, and which might, therefore, have subjected him to a charge of inaccuracy or misrepresentation.

1821. August. ingly we here found a more than ordinary degree of sluggishness in the compasses, both on board the ships and on shore. The Fury's head was to-day constantly north-west on one tack and north-east on the other, the wind remaining steadily fixed in the northern quarter; and in making observations for the dip on shore, it was with considerable difficulty that the true direction of the magnetic meridian could be determined, the small horizontal needle attached to the instrument for that purpose having become altogether useless, and one of Kater's differing several degrees in two or three succeeding observations.

From our place of observation on shore we had a distinct view of Cape Hope, which is high and bluff, as well as of the land to the eastward of it, running towards Beach Point, which becomes lower, as described by Captain Middleton. Indeed the whole account he has given of this bay, with the exception of its geographical position, is in general very accurate, particularly in the appearance of the lands, their relative situation, and in the nature and depth of the soundings. With respect to the Frozen Strait, through which we passed with less difficulty than usual in the navigation of those seas,—thus, for the first time, determining by actual examination the insularity of that portion of land which by anticipation has long been called Southampton Island,—there can be little doubt that the account Middleton has given of its appearance, as seen from Cape Frigid, is in the main a faithful one. In that view it would seem to be "almost full of long small islands;" nor is there any improbability of its having been, at the time of his visit, covered with ice, which might appear to be "fast to both shores," presenting to a person so situated a hopeless prospect of penetrating through it to the northward. Above all, the accuracy of Captain Middleton is manifest upon the point most strenuously argued against him by Mr. Dobbs; for our subsequent experience has not left the smallest doubt of Repulse Bay and the northern part of the Welcome being filled by a rapid tide flowing into it from the eastward through the Frozen Strait.

From twenty-two minutes after seven A.M. till twelve minutes past one P.M., when we left the shore, the tide was constantly ebbing, and fell seven feet three inches in that time, from which I concluded the time of high water this morning to have been about ten minutes past seven, and a quarter after eleven on full and change days. The tide was tried on board every hour during the forenoon, and found to set as follows:

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At 9 A.M. no perceptible tide (qu. high water by the stream?)
„ 10 „ the tide set S.E.b.S., ½ a mile per hour.
„ 11 „ „ S.E.b.E., ¼ mile „
„ Noon „ S.E. ¼ mile. „

Soon after we got on board, Lieutenant Palmer returned from the examination of the north-western bight, which he named Gibson's Cove, and of which he delivered to me, together with his report, a sketch shewing its soundings and general outline and, what alone was very important, the continuity of land all round it. Lieutenant Palmer's report stated that he had rowed close in-shore all round the bay, and had found it "terminate in a small cove, having a deep ravine running into it on the western side." Thus was the question settled as to the continuity of land round Repulse Bay, and the doubts and conjectures, which had so long been entertained respecting it, set at rest for ever.

CHAPTER III.

RETURN TO THE EASTWARD THROUGH THE FROZEN STRAIT—DISCOVERY OF *HURD CHANNEL*—EXAMINED IN A BOAT—LOSS OF THE FURY'S ANCHOR—PROVIDENTIAL ESCAPE OF THE FURY FROM SHIPWRECK—ANCHOR IN *DUCKETT COVE*—FURTHER EXAMINATION OF THE COAST BY BOATS AND WALKING-PARTIES—SHIPS PROCEED THROUGH *HURD CHANNEL*—ARE DRIFTED BY THE ICE BACK TO SOUTHAMPTON ISLAND—UNOBSTRUCTED RUN TO THE ENTRANCE OF A LARGE INLET LEADING TO THE NORTH-WESTWARD—SHIPS MADE FAST BY HAWSERS TO THE ROCKS—FURTHER EXAMINATION OF THE INLET COMMENCED IN THE BOATS.

1821. August. Wed. 22. HAVING now satisfactorily determined the non-existence of a passage to the westward through Repulse Bay, to which point I was particularly directed in my Instructions, and which, for the reasons detailed in the commencement of the preceding Chapter, I had confidently considered as part of the American continent, it now remained for me, in compliance with my orders, to "keep along the line of this coast to the northward, always examining every bend or inlet which might appear likely to afford a practicable passage to the westward." It was here, indeed, that our voyage, as regarded its main object, may be said to have commenced, and we could not but congratulate ourselves on having reached this point so early, and especially at having passed almost without impediment the strait to which, on nearly the same day * seventy-nine years before, so forbidding a name had been applied.

As soon as the boats were hoisted up, all sail was made along shore to the eastward, the wind being light off the northern land; and we could plainly perceive the low shore which runs to the southward and eastward of Cape Hope, as far as the latitude of 66° 14′, from whence the researches of the present Expedition on the coast of the American continent are, therefore, to be considered as commencing. We also saw the land on the eastern side of the Welcome, about Cape Frigid, but as we had no opportunity of closely

* Middleton discovered the Frozen Strait on the 20th of August, 1742, according to the New Style.

examining those parts, the breadth of this passage into the Welcome, as well as the general outline of both coasts to the southward of this, are laid down in the chart, from Captain Middleton's account of their relative position, but with their latitudes and longitudes corrected by our observations. Of the exact situation of Cape Frigid there will perhaps always remain some doubt; but from an attentive examination of Captain Middleton's account, I believe that we cannot be far from the truth in considering it as the northern extreme of Southampton Island, near which we tried for anchorage on the evening of the 20th. After clearing Repulse Bay we came to some ice that the wind was now drifting off the northern shore, which had before been loaded with it by a breeze from the opposite quarter, so that we were once more fortunate in finding a tolerably clear sea. At the back of this is a bay of considerable size, which I named after the Reverend James Haviland, of Bath. The wind continued moderate at night, but with dark cloudy weather, obliging us to heave-to for several hours, lest any small islands with which we were unacquainted should lie in our way. 1821. August.

All sail was made at daylight on the 23d along the northern shore of the Frozen Strait, which here continues about the same height as that of Repulse Bay, and was at this time quite free from snow. At nine A.M. the weather became squally with thick snow, which rendered great caution necessary in running. Soon after noon we perceived, during the intervals of clearer weather which occasionally took place, that the land we were approaching was somewhat broken, and in one place appeared to consist only of islands, between which no land was visible at the back. There was something in the appearance of this part of the coast which held out so favourable a prospect of a direct passage to the northward, that I determined more closely to examine it. Having beat up to the mouth of an opening which, the nearer we approached, assumed a more and more favourable appearance, we found that a body of ice occupied the greater part of the channel, rendering it impracticable then to enter it either with the ships or the boats. The only mode left, therefore, of examining it without loss of time, was to despatch a party equipped for travelling by land, to ascertain enough of its extent and communications to enable me to decide as to our farther progress. As, however, in their present situation, I did not feel myself justified in leaving the ships, I requested Captain Lyon to undertake this service. He was accompanied by Mr. Bushnan and two seamen from each ship, and was furnished with a tent, blankets, and four days' provisions. In the mean time, as there was very little ice near us Thur. 23.

1821. August. except what was in the mouth of the inlet, and that appeared to be coming quickly out with the wind, I thought the safest way for the ships, as well as to secure the quick return of Captain Lyon and his party, would be to anchor, which we did in thirteen fathoms, upon a hard bottom, at the distance of one mile from the shore. As soon as the anchors were dropped, we found that the tide came out of the inlet, and then set to the westward, at the rate of a mile an hour; and as we had reason to believe, as indeed it afterwards proved, that this was the flood-tide, our hopes of here finding a passage to the northward, so as at least to save us the necessity of pursuing the more circuitous route round the lands we had left to the southward and eastward, received great encouragement.

Shortly after Captain Lyon left us, the loose though heavy ice, which had at first blocked up the mouth of the inlet, began to drive towards the Fury, coming at times with considerable force against the bows and across the chain-cable. By attending to the helm and watching the ice carefully, we contrived at first to avoid the heavier masses, and I was in hopes that it would in a short time have drifted past us, while the northerly breeze would prevent its return with the ensuing tide. In this hope I was, however, disappointed, for after three hours that the inlet had thus been pouring out its ice, it became more abundant as well as heavier than at first, and at seven o'clock we could no longer avoid frequent and violent shocks. At half past seven when, by the time of high water in Repulse Bay, we had reason to expect the tide would begin to slacken, it had on the contrary increased its velocity to two miles an hour; and some large pieces of ice coming athwart-hawse brought the anchor home, causing it to drag along the ground with a harsh grinding sound. The Hecla having anchored a little to the westward of us happened to be just out of the stream of this tide, so that the greater part of the ice passed without touching her. As however there was reason to apprehend that some turn or eddy might also endanger her, I made Lieutenant Hoppner's signal to weigh, having already begun to do so on board the Fury. This was not easily accomplished, for on heaving at the cable it was found to have cut its way into a heavy mass of ice which hung across it, and which it required more than half an hour's labour to clear, and when we had done so another piece immediately fixed itself in the same manner, dragging the anchor with renewed violence along the rocky ground. As soon as this had been disengaged the anchor was hove up with the utmost alacrity, and would have been saved if the most strenuous exertions of the officers and men could

have effected it, but I was much mortified to find on its coming to the bows that both flukes were broken off, the iron stock being polished quite bright by rubbing against the rocks. The Hecla succeeded in purchasing her anchor without its sustaining any injury, after which we made fast to two floe-pieces during the night, and the Hecla kept company by means of our light, the weather being dark and cold with much sleet and rain. 1821. August.

I expected to have been unavoidably driven far to the southward and eastward by the fresh north-west wind which was now blowing, and was therefore not a little surprised to find at daylight that we had scarcely lost any ground, being still off the inlet which Captain Lyon was examining. This circumstance I particularly notice, because it was the first of several instances that occurred of our observing the flood-tide to set stronger to the north-west than the ebb to the south-east in the Frozen Strait, which on this occasion must have been the case, to balance the effects of a fresh north-westerly wind. Soon after daylight we made sail and stood in towards the inlet, but the wind failing us we were before noon driven seven or eight miles to the westward. The day proved extremely thick and wet, being as uncomfortable for our shore party, as unfavourable for the prosecution of their object. At thirty minutes after three P.M., we were off a small rocky islet, lying at the distance of two miles and a half from the land, and near the mouth of a second inlet, six or seven miles to the westward of the other, and which as we afterwards found makes an island of the intervening land. We here found the tide of ebb setting us between the islet and the main land, and towards the inlet withal. The wind being very light we were obliged to let the ships drive through within the islet, having from thirteen to twenty-five fathoms, at the distance of one-third of a mile from it. By keeping all the boats a-head for several hours we then towed the ships off-shore before dark. Frid. 24.

The wind was too light to enable us to keep our station during the night, and at daylight on the 25th we found ourselves as usual several miles to the westward. A breeze springing up soon afterwards from the northward enabled us to stand along the land, but such was the strength of the flood-tide against us, though almost at the dead of the neaps, that when sailing three knots and a half through the water, we did not advance to the eastward above a mile an hour and at times much less than this. In the course of the forenoon the quantity of ice in sight increased so much that the strait was almost covered with it, and the wind afterwards becoming scant we were gradually led off the Sat. 25.

1821. August. land, in spite of every endeavour to regain the mouth of the inlet. In the afternoon the ice became so close, though the masses were constantly and rapidly in motion among themselves, that it was impracticable any longer to keep under way, and we were just about to make the Fury fast to a large floe-piece when I was informed that our boat was coming off from the shore, from which we were then distant eight or nine miles. At four P.M. Captain Lyon and his party disembarked on the opposite side of a broad stream of ice which intervened betwixt us, and some fresh hands being despatched to assist in dragging the boat over the ice, they soon arrived safely on board. The account of Captain Lyon's excursion and of his discoveries within the inlet, on which the future operations of the Expedition principally depended, I need offer no apology for giving in his own words.

Thur. 23. "On leaving the Fury, we pulled to the eastern point of the high land which formed the western boundary of the inlet, and in half an hour landed on a steep rocky point, near which much heavy ice lay aground. We then with our tent and baggage proceeded to a high barren hill to the northward, from whence we clearly perceived that we were on an island of about five miles in length, and two or three in breadth. To the northward and eastward lay a broad strait, (which, at the part nearest us, was above a mile across,) running east and west. Previous to descending the hill, Mr. Bushnan and myself took such bearings as the weather would permit, and as it was dark by the time we arrived at the boat, I determined on remaining where we were for the night; we therefore pitched our tent on the rocks, and lay down until the morning. During the night, the ice set out past the point we lay on, at the rate of at least four knots, and the pressure occasioned it to break with loud and sharp reports, as it passed the low rocks and grounded pieces, over which it became piled in many places to a great height.

Frid. 24. "Much rain fell during the night, which was dark and cold with a light wind. At two A.M., before the day began to break, we found that it was slack water, but the eastern entrance was literally packed with ice, through which a passage was impossible. The grounded pieces, however, being very heavy, afforded us an occasional channel of clear water between them and the rocks. We therefore launched our boat, and by tracking and rowing, succeeded, after nearly two hours' labour, in reaching the northern

point of the island, (which I named after Mr. Bushnan,) and finding tolerably open water, we then crossed the strait in the direction of a high bluff, which we had seen from Bushnan's Island. 1821. August.

"About half way across the strait we passed a rocky island, of about three quarters of a mile in extent. On rounding a small bluff, on which were great numbers of the *larus argentatus* and their young, we saw some deer feeding; and a little farther on, a she-bear and her cub ran close to the water, apparently watching us. I named the place, Bear Island. Crossing the inlet, (whose breadth at this part may be estimated at three miles,) we landed on a steep point, up which we immediately hauled the boat. From this point, which I called Cape Montagu, I observed the strait still to trend to the eastward, and the north side appeared bounded by land at about seven miles. We left the boat and proceeded to a high and remarkable hill called Brooks's Bluff, which was but indistinctly seen, owing to the continued and heavy rain. We had scarcely arrived on the summit, when a very heavy snow storm set in and in a short time covered the mountain, and limited our sight to a few yards. We therefore took a hasty breakfast, and after some difficulty and no little danger again descended.

"At nine A.M., the weather cleared up a little and the snow ceased, but rain continued to fall. From Brooks's Bluff a valley runs to the eastward, and is nearly occupied by a lake of about three miles in circumference. Along the bank of this lake we pursued our route and, on leaving it, passed many smaller ones and crossed several valleys. At about an hour before noon, after having passed several rocky and barren hills of granite which bounded and intersected the valleys, we arrived unexpectedly on a high cliff, which looked down to a small strait at its foot, trending N.b.W. and S.b.E., and at this part about a good mile in breadth. Our farther progress eastward being now stopped, I decided on following the strait to the northward as far as the day would permit. Mr. Bushnan and one man accompanied me, and the other three remained behind to pitch the tent and endeavour to light a fire of moss.

"In our walk we passed the remains of many Esquimaux habitations, but none of them appeared to have been inhabited for many years. We also procured a mountain marmot, (*arctomys alpina*,) which we chased under a large stone, but were unable to take alive. After having walked about six miles from our first setting out, we arrived at the end of this little strait, which termi-

1821. August. nated in a large space of open water, having land, apparently an island or islands, at about four miles to the northward, beyond which the continued thick weather permitted us to see no horizon. In the evening the rain ceased for the first time since our leaving the ships, and we contrived to make a fire. As the rocks were covered with wet spongy moss, we paved our tent with rough stones, and by means of our fire were enabled to dry some of the *andromeda tetragona*, which, with the addition of ashes, made a most comfortable bed.

Sat. 25. "During the night much snow fell, and in the morning we found the rocks covered with it. At five A.M., we proceeded over the hills to the southward. In an hour's walk in that direction, we arrived at a small bay about a mile in extent, in which some very heavy ice was lying aground. A bluff point on the south side terminated the small inlet, which here opens into the larger strait. We coasted the large strait westerly, as nearly as the nature of the shore would permit, in a strait line, and arrived at Cape Montagu a little before nine A.M. On the shore and the rocks which overhang it were several remains of Esquimaux settlements, many of which had soot still on their fire-places. We also saw several very perfect little store-rooms for their provisions, constructed of rough stones, and about six feet by three in extent. Some of the ground-plans of the huts differed from those seen in Repulse Bay, and one in particular was remarkable, being thus formed:

"The extent was about twenty-five feet by fifteen, and at either end the ground was a little raised as if for sleeping-places. We also passed a singular assemblage of flat stones, set up edgeways, each about three yards apart, and extending at least for five hundred yards, down to a small lake situated in a grassy valley.

1821. August.

"We observed from Cape Montagu that the eastern entrance was quite blocked up with ice. Bear Island was also surrounded by immense masses, and others were carried past it at the rate of about four miles per hour by the tide. At a little past ten A.M., the ice having slackened so as to allow of our going over to Bear Island, we soon reached it, from whence we could observe and take advantage of any open water. We found that although at half tide this was an island, three distinct isles are formed at high water. At twenty minutes past ten A.M. it was high water, which was an extremely interesting fact to have ascertained, as it removed any doubt respecting the direction of the tide.

"Finding the ice was at this time tolerably tranquil, we picked our way through it, and in about two hours and a half reached a small islet half a mile to the southward of Bushnan's Island. On this we landed and saw one ship eight or ten miles to the S.S.W. We remained here one hour to dine; and by a pole, which we had set up on landing, found the tide to have ebbed three feet. We then proceeded towards the ship, having fitted a blanket as a sail for our boat, and most fortunately arrived at night-fall near the Fury. The ice which lay in the Frozen Strait being in very rapid motion, we could not approach the ship; but after making what way we could amongst the loose pieces, we at length came to a large floe, near which the Fury had made fast in a thick fog which then came on. Captain Parry sent his people to haul our boat over the ice to the ship, which was close beset, and I remained on board her for the night, my own ship being separated from her by the ice. Unsatisfactory as our short journey had been, on account of the badness of the weather, there was still sufficient to cause the most lively interest, and give strong hopes of the existence of some passage to the north-east of the small inlet I had examined."

A thick fog coming on immediately after Captain Lyon's arrival, we could not but consider ourselves fortunate in having picked our party up so opportunely. The Hecla having in the course of the day been separated from us seven or eight miles, in consequence of the ice carrying her to the westward, Captain Lyon remained on board the Fury during the night, when the plan of our future operations was determined on. The result of the late examination, imperfect as it necessarily was on account of the extremely unfavourable state of the weather, was sufficient to excite the

1821. August. strongest belief that some communication, not very indirect, must exist between the Frozen Strait and a sea to the northward and eastward of it; and it was determined, therefore, to leave nothing undone to ascertain and follow up this communication. As, however, the narrowness of the channels, together with our present ignorance of their depth, the strength of the tides, and the quantity of ice with which the sea was loaded, rendered the attempt extremely hazardous without further examination, the first and most important object appeared to be, to find near one of the entrances, (of which Captain Lyon recommended the western,) a secure anchorage for the ships during the time necessary for prosecuting this examination. I, therefore, proposed to Captain Lyon that whenever the situation of the ice would permit, he should proceed in a boat to the western entrance, to endeavour to find such an anchorage, directing his attention solely to this object and reserving all further examination till the ships should be there secured. This service Captain Lyon gladly undertook to perform, and Mr. Bushnan was again appointed to accompany him. An event was, however, about to occur which threatened very seriously as well as unexpectedly to interfere with these arrangements.

At eight P.M. having shoaled the water from sixty to forty, and then to thirty-two fathoms, and the weather still continuing extremely thick, I suspected that the tide was taking us too close to Passage Island, which was the nearest land when the fog came on. As the water seemed tolerably clear for a few hundred yards, which was the extent of our view, I ordered the ship to be got under sail in order to be in greater readiness for acting as circumstances might require. The ice, however, once more became so thick about us that, with the light wind then blowing, it was found impracticable to force the ship through it. While we were thus employed the fog suddenly cleared away, and we found ourselves within three-quarters of a mile of the east end of the island. A large space of open water was at this time not more than a quarter of a mile distant from us in the opposite direction, but before the ship could be moved by warps or by any other means within our power, the tide was observed to be setting her directly between the island and the little yellow-looking rock I have before mentioned as lying on its eastern side. Seeing that every exertion of ours was fruitless to prevent driving with the tide, which was setting at about the rate of a mile and a half an hour, it became expedient to relinquish that attempt, and to endeavour only to keep the ship as nearly as possible in mid-channel. The anchors were kept ready to

drop in an instant should the ship drive into shoal water; for had we grounded, and the heavy masses of ice continued to drive upon us, little less than the total destruction of the ship was to be apprehended. The natural direction of the stream, however, effected for us that which, hampered as we were, our own exertions must have failed in accomplishing; the ship drove through, at the distance of one hundred yards from the rock and about one hundred and forty from Passage Island, having no less than twelve fathoms; and soon after deepened the water to thirty-five and forty, and then to no bottom with ninety. 1821. August.

After this providential escape, we lay-to within the island, in order to drift to the northward and westward of it with the flood-tide, which runs stronger here than in any other part of the Frozen Strait. The night was fine but extremely dark, so that after ten o'clock we could not distinguish where the land lay, and the compasses could not be depended on. After an ineffectual attempt to push through the ice towards the middle of the Strait, in order to avoid the danger of being entangled among the numerous islands lying off this shore, we were literally obliged to let the ship take her chance, keeping the lead going and the anchors in readiness.

I have never yet been able to conjecture on which side of the island the Fury was afterwards drifted out. The soundings, however, continued deep and, at day-light on the 26th, after a most anxious night, we found ourselves about the middle of the Strait, and as usual drifted by the tide some distance to the northward and westward. A breeze which at this time sprung up from that quarter enabled us nearly to fetch the western inlet, where we now proposed to search for an anchorage. The Hecla having got clear of the ice the preceding evening, and narrowly escaped an adventure similar to that which we had experienced, rejoined us early in the morning, when Captain Lyon returned to her to prepare a boat for his intended excursion. We then stood in under all sail for the land, and at eleven A.M. Captain Lyon left the Hecla, while the ships tacked off and on to await his return. The day was fine and clear; and as the ice occasioned us no disturbance we were enabled to give the people several hours' rest, of which, from the exertions of the preceding night, they stood much in need. At nine P.M. Captain Lyon returned, acquainting me that he had met with a small bay having no stream of tide, and being at present clear of ice, he thought it might answer our purpose, but he wished me to see it before the ships were taken in. Sat. 26.

1821. August. Mon. 27.

We continued lying to, therefore, for the rest of the night; and at five A.M. on the 27th, I left the Fury, taking with me Mr. Bushnan to point out the place in question. On reaching the bay, we found that the ice had during the night almost entirely filled it; but on ascending a hill we observed another and apparently a secure cove, on the opposite or north shore, to which we immediately proceeded. Having placed a flag on a mass of grounded ice, near a shoal point at the entrance, and sounded every part of the cove, which was found to afford good anchorage, we rowed out to the ships.

Returning on board at eleven A.M., I found that the state of the weather had prevented any observation of the eclipse of the sun which took place this morning; and Mr. Fisher could only just perceive the penumbra passing over it. Having despatched Mr. Bushnan to the Hecla as a pilot, all sail was immediately made for the inlet, as I was anxious to save the flood-tide in case of the ships grounding. A strong breeze was now blowing from the north-west, which carried the Fury through the water at the rate of seven knots, notwithstanding which she did not advance above three miles an hour over the ground when in the strength of the tide, and in mid-channel. On rounding the shoal point on which the flag had been placed, I was surprised to find the water shoal to four, three, and two and three quarter fathoms; but a press of canvass giving the ship a considerable heel, she fortunately did not touch the ground. As soon as we had anchored, I found that this circumstance had arisen from the mass of grounded ice having shifted its position by floating with the rise of tide. A boat was therefore despatched to lie off the reef, as a guide to the Hecla; and Captain Lyon reached the anchorage in safety at one P.M. We lay here in twelve to fifteen fathoms at low water, on a bottom of tough mud, affording excellent holding-ground. Indeed on almost every part of this coast we found the ground equally good, at the distance of two or three cables' lengths from the shore, whereas it is almost invariably rocky in the deeper water of the offing.

A boat from each ship being immediately prepared, Captain Lyon and myself left the cove at three P.M. to proceed on the proposed examination. We separated at Point Cheyne, Captain Lyon having pointed out to me the broad eastern channel from which the tide appeared to come, and which it was my intention to examine, while he directed his attention to the smaller passage he had described as leading to the northward. It was agreed that we should

return to the ships with as little delay as was consistent with the object we had in view, namely, to ascertain through which of the two channels it was expedient or practicable to bring the ships. 1821. August.

I found that the northern shore near which there was no ice, and which is here separated from the other to the distance of two or three leagues, was that to which our course should be directed, in order to obtain a distinct view of the neighbouring lands. We therefore steered for the highest hill, which rises perhaps from twelve to fourteen hundred feet above the level of the sea. The wind freshening up to a gale from the westward, we reached the beach at seven P.M., having obtained no soundings with fourteen to twenty fathoms of line in the course of our run. We found a good deal of surf upon the beach, which is a rough and stony one, requiring some caution to prevent swamping or staving the boat. While the men were carrying up the things and pitching the tents, Mr. Ross and myself were occupied in taking the angles for the survey, it being too late to set out on our intended excursion to the hills. We found our tents, drenched as they were by the sea, extremely comfortable. They were of the kind called horsemen's tents and made of canvass instead of blanketing. The shelter they afford when aided by the warmth of a blanket made into a bag, and a dry suit of clothes for sleeping in, give no bad accommodation, so long as the temperature of the atmosphere does not fall more than two or three degrees below the freezing point.

The breeze moderated soon after our landing and a fine clear night succeeded. At four in the morning, Mr. Ross and myself ascended the nearest hill, in the hope of being able to satisfy ourselves respecting the existence of a passage for the ships, in at least one direction. I therefore directed the tents to be struck and every thing to be in readiness for moving on our return. On reaching the summit of the first hill, however, we found, as is not unfrequently the case, that our view was but little improved, and that no prospect could be obtained to the northward, without ascending the higher hill seen the preceding evening, and which we now found still several miles beyond us. As therefore no satisfactory information could be gained without giving up the day to this object, we immediately returned to the tents to breakfast, with the intention of then setting out, accompanied by two of the men. While preparing for this, I felt so much indisposed with a sick-head ach that, being apprehensive of laying myself up at a time when I could least afford to do so, I determined to intrust the proposed service to Mr. Ross, in whose zeal and ability to accomplish it I felt the utmost confidence. Mr. Ross Tues. 28.

1821. August. and his party accordingly set out for the hill at six A.M. During their absence I employed myself in obtaining the usual observations and in noticing the height, direction, and time of the tides. By observing the motion of the fragments of ice I found that, although there was on this shore a considerable rise of the water, there was little or no perceptible current on either tide, except within a mile or two of the high southern land where it ran very strong, the flood to the westward, and the ebb in the opposite direction. This belt of tide, as it were, ran between a considerable opening to the south-east, and that through which we had come from the ships, and it was only in this space that any ice was at present to be seen. These circumstances tended to strengthen the opinion I had at first formed, that the main outlet into the sea from whence this ice came would be found by following the ebb-tide, which unquestionably ran to the eastward. I was still in hopes, however, that notwithstanding the absence of ice, and of any perceptible stream of tide, in the more northerly channel which Captain Lyon was examining, some more direct, though perhaps narrower, communication might be found, that would save us much time and trouble. The appearance of the land, which seemed to consist of a large assemblage of islands, greatly favoured this hope; nor was it discouraged by the accounts received in the evening on the return of our party from the hills. Mr. Ross reported that having reached a commanding hill, he found himself overlooking a sea of considerable extent to the eastward, and washing the foot of the hill on which he stood. This sea appeared to have some islands scattered about it, and was much encumbered with ice. To the south-eastward there seemed to be several openings between islands, of which the land we stood then upon appeared to form one, the sea sweeping round to the northward and westward, as if to join the strait discovered by Captain Lyon. Mr. Ross described the country over which he passed as much intersected by lakes, some of them not less than two or three miles in length, and having in their neighbourhood abundance of grass, moss, and other fine feeding for the deer. The report of Mr. Ross accompanied by an eye-sketch made upon the spot left no doubt of the existence of an outlet to the eastward, and enabled me to decide without hesitation upon attempting the passage of the narrows with the ships, leaving our subsequent route to be determined on according to the report of Captain Lyon.

The rocks upon this coast, as well as those in the interior, are composed of gneiss, traversed occasionally by veins of quartz and feldspar, and having intermixed with it much of a green substance which we took to be epidote,

and which we had not met with so abundantly anywhere else. On the surface of the ground, but most especially near the beach, were many loose pieces of limestone of a white colour and quite sharp-edged. On the banks of the lakes the vegetation was quite luxuriant, giving them when viewed from an eminence and assisted by bright sunshine a cheerful and picturesque appearance. There was no snow upon the land, except here and there a broad thick patch in the hollows, where it may probably remain year after year undissolved; but with the exception of these patches, there was nothing in the appearance of the country to remind one of being near the polar circle. Piles of stones and the remains of Esquimaux habitations, were everywhere to be seen, and Mr. Ross met with their marks even on the highest hills; but none appeared of recent date. The rein-deer were here very numerous. Mr. Ross saw above fifty in the course of his walk, and several others were met with near the tents. A large one was shot by one of the men, who struck the animal, as he lay on the ground, a blow on the head with the butt-end of his piece, and leaving him for dead ran towards the tents for a knife to bleed and skin him; when the deer very composedly got on his legs, swam across a lake, and finally escaped. A small fawn was the only one killed. Three black whales and a few seals were playing about near the beach. 1821. August.

Our people being somewhat fatigued with walking were allowed to rest till half past one on the morning of the 29th, when it being high water the tents were struck and the boat loaded. The morning was beautifully clear and tranquil, and the Aurora Borealis was faintly visible at break of day in the south-west quarter of the heavens. Leaving the shore before two o'clock, we steered for an island in the direction of Point Cheyne, and landed to breakfast on a rock off its eastern end. The water is very shoal on the north and east sides of this island; the southern side is bold, the whole surface rocky, and composed entirely of gneiss. Proceeding towards Point Cheyne, we first began to perceive the influence of a stream of tide, as we approached some heavy ice about a mile from the point, which we found to be aground upon a shoal in twelve to seventeen feet, lying abreast of an island called by Captain Lyon, Rouse Island. Over this shoal the ebb-tide was running from the N.N.W., at the rate of three miles an hour, to join the main stream which sets to the eastward along the south shore. After taking marks for the shoal, which lies rather in the way of a ship coming through this channel, we rowed over to the point. The strength of the tide gradu- Wed. 29.

1821. August. ally increased as we approached the narrows, where it was running full six miles an hour in the middle of the stream, it being now about the height of the springs. We landed for a short time on Point Cheyne to obtain sights for the chronometer, and some essential angles for the survey; the boat's crew in the mean time warming and amusing themselves in hunting an ermine which, by the quickness of its turning and the shelter afforded by the stones, escaped from them at last. Having placed a flag on this point, as a mark for the ships, no time was lost in setting out for the cove which, after taking all the soundings and marks which the strength of the tide would permit, we reached at a quarter before ten A.M. I found that Captain Lyon had returned on board the preceding evening, having accomplished his object in a shorter time than was expected. Captain Lyon's account of his excursion is here subjoined:

"Separating from Captain Parry at Point Cheyne, Mr. Bushnan and myself proceeded to the examination of the sea to the northward of the little channel before discovered, at which we arrived in three hours from the time of our leaving the ships; and, on reaching the bar already mentioned, we saw the bottom all across; it appeared rocky, and some large fish were swimming over it, which our people supposed to be salmon. The breadth, it being dead low water, we estimated at one cable's length, and the depth we found to be twenty-four feet. As we traced the northern part of the inlet we found a long rolling ground-swell setting in; it broke occasionally, and caused the boat to pitch nearly bows under. This was remarkable, as being the first sea of the kind we had met with since leaving the Atlantic, and therefore excited considerable hope that we should find some outlet to the northward. The depth of water was here thirteen fathoms.

"In consequence of our inability to round the extreme point, we landed just within it, and from the unaccommodating form of the rocks, were under the necessity of carrying the boat on our backs above three hundred yards before we could place her in safety. On the north side of the point we found a regularly shelving beach, covered with rounded shingle, on which a heavy surf was breaking, the wind being strong from the northward. We now saw the land all round us, forming an immense bay, and took the requisite bearings of remarkable points. We observed that, notwithstanding the swell I have mentioned, there was no perceptible stream of tide. The night was

fine and we pitched our tent on some smooth gravel, evidently so levelled by the Esquimaux. At midnight two large black whales came from the southward and passed into the bay. As the wind continued fresh from the northward and the surf was heavy, we did not take advantage of the morning tide on the 28th, but decided on waiting until afternoon. In the mean time Mr. Bushnan and myself took fresh bearings and obtained good sights for longitude, which we found to be 84° 30′ 05″. 1821. August.

"The tide had fallen to its lowest ebb at six A.M., sixteen feet. As the land appeared continuous to the westward, we ascended some mountains at about three miles in that direction, in order to look out for a course for our boat, when we should be able to float her. From hence we saw the northern land assume the appearance of a noble bay, having in it a few low islands. To the eastward we saw a large opening to the sea, which was distant about five leagues, and was the direction in which Captain Parry had proceeded. It was also evident that the land bounding the small strait, in that direction, was insular, and I therefore named it Georgina Island. We took new bearings and, having erected a conspicuous pile of stones to serve as the termination of a base for our survey, we again descended to the point. At noon we obtained a good meridian altitude, which gave the latitude 66° 12′ 23″. We caught a large bee, *apis alpina*, and two small but beautiful butterflies. The people took two mice, and some deer were seen grazing at a distance. The rocks were chiefly of gray granite, but we also obtained interesting specimens of other stones. At thirty minutes past twelve, the tide having risen so as to float our boat, we made sail to the westward to examine the only point which we supposed could bound any inlet, but finding the land continuous we again returned to the eastward. At the distance of one mile from the shore we could get no soundings with our boat's lead at twenty-five fathoms, but nearer the beach it shoaled gradually, and I have no doubt that good anchorage would be found. Leaving the bay, which as a small token of gratitude I named after Rear-Admiral Sir John Gore, I decided on going to the eastward of Georgina Island, and at half past three we passed its extreme point, where we found a snug bay about a mile in circumference having a small islet in its centre Soon after four P.M. we met, on entering the large strait, two of our boats, which had been sent to sound. Waiting with them on a low rocky point until the strength of the tide abated, we then returned on board by ten P.M."

1821. August. That no time might be lost in running the ships through the narrows, I directed three boats from each to be prepared, for the purpose of sounding every part of this intricate, and as yet unknown, passage, which I named after Captain Thomas Hurd of the Royal Navy, Hydrographer to the Admiralty. Giving to the officer commanding each boat a certain portion to accomplish, I reserved for my own examination the narrowest part of the channel; and at thirty minutes past one P.M., as soon as the flood-tide began to slacken, we left the ships and continued our work till late at night, when having received the reports of the officers and made out a plan of the channel for each ship, I directed every thing to be in readiness for weighing at the last quarter of the ebb on the following morning. Much as I lamented this delay, at a period of the season when every moment was precious, it will not appear to have been unnecessary, when it is considered that the channel through which the ships were to be carried did not in some places exceed a mile in breadth, with half of that space encumbered with heavy masses of ice, and with an *ebb*-tide of six knots running through it.

The lines and kedges were prepared at daylight on the morning of the Thur. 30. 30th, but when the proper time of tide arrived there was not a breath of wind for working the ships, so that I was reluctantly obliged to remain at anchor till the next ebb. I therefore directed a large party of officers and men to be sent on shore in quest of game, three deer having been killed the preceding day. We had now however no success; a number of deer were seen in herds of from four to ten, but the neighbourhood of the ships had rendered them too wild to be approached. A dog of mine, of the breed called by game-keepers buck-dogs, that had for one or two years past been accustomed to run down deer in England, had now two fair chases, but without the smallest chance of coming up even with three young fawns. The dog returned with his feet much cut by the rocks, and so completely exhausted that he could scarcely move a limb for a day or two afterwards.

The little anchorage we were now about to leave, and which was named by Captain Lyon, Duckett's Cove, lies in lat. 66° 12′ 36″; and in longitude, by our chronometers, 86° 44′ 01″.9. The dip of the magnetic needle was here 87° 31′ 06″ and the variation 52° 19′ 48″ westerly. We found the holding ground so tough that we could with difficulty purchase the anchors; the shelter from wind and sea is perfect in every direction, and there being scarcely any stream of tide, no ice enters but what is drifted in with a south-easterly wind, which coming with little force is not likely to do a ship any injury.

At fifteen minutes past three P.M. a light air of wind springing up from the eastward we weighed, and having warped out by kedges till we had cleared the shoal point of the cove, made sail for the channel and, with the assistance of the boats, got the Fury into the fair set of the tide, before it made very strong to the eastward. At a quarter before seven, when in the narrowest part, which is abreast of a bold headland on the south shore, named, by desire of Mr. Bushnan, Cape Shackleton, and where the tide was now driving the ice along at the rate of five or six knots, the wind came in a sudden gust from the south-west, scarcely allowing us to reduce and trim our sails in time to keep the ship off the north shore, which is not so safe as the other. It was now that the advantage appeared of having thoroughly sounded the channel previously to attempting the passage of it; for had the ships taken the ground with so rapid and considerable a fall of tide, and with so much heavy ice hurried along by it, I do not know what human effort could have saved them from almost immediate wreck. By carrying a heavy press of canvass, however, we succeeded in forcing through the ice, but the Fury was twice turned completely round by eddies and her sails brought aback against the helm; in consequence of which she gathered such fresh sternway against several heavy floe-pieces, that I apprehended some serious injury to the stern-post and rudder, if not to the whole frame of the ship. The Hecla got through the narrows soon after us, but Captain Lyon, wishing to bring away the flags and staves set up as marks, had sent his little boat away for that purpose, during the continuance of the calm weather. When the breeze suddenly came on she was still absent, and being obliged to wait for some time to pick her up, the Hecla was about dusk separated several miles from us.

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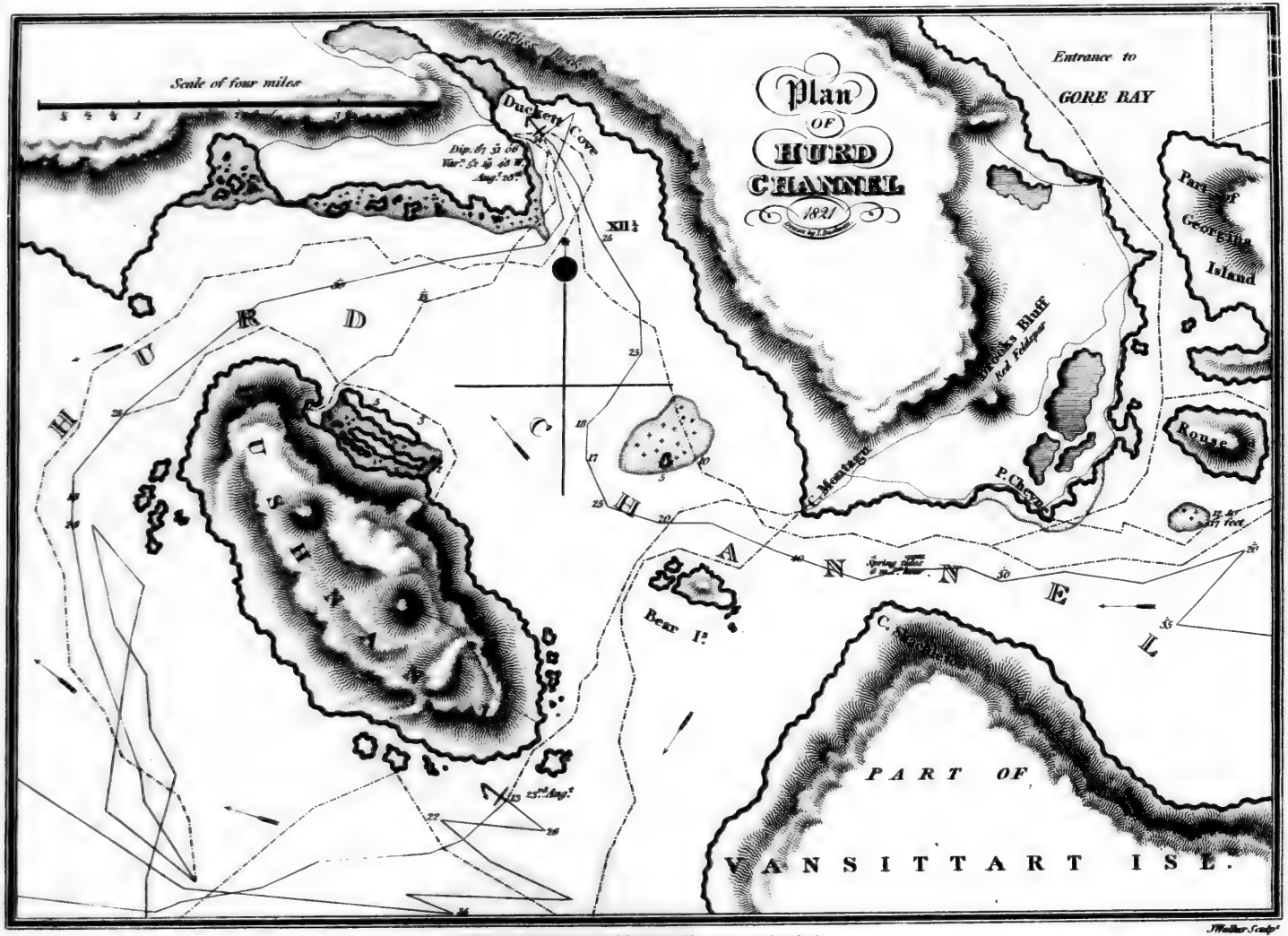
It was my intention, after getting through the narrows, to haul round to the northward and eastward, either to find an anchorage or to keep under way during the night, in the large space to the northward and eastward of Rouse Island, which I had before found clear of ice, and free from any perceptible stream of tide. My mortification may therefore be conceived at now finding the whole of this space so covered with ice as not to be navigable, while the only clear water in sight was along the south shore, where the whole strength of tide was known to set, and which therefore, unacquainted as we were with the soundings, would be a dangerous station for the ships to occupy during the night. There appeared however no alterna-

1821. August. tive, and it being now dusk, we had every prospect of passing an anxious and unpleasant night.

On hauling up for the south shore, we perceived from the crow's nest a point of land that seemed to open into a bay; and as there was a chance, notwithstanding the general boldness of the coast, of our there finding ground for anchorage, we stood in for it under all sail. In this hope we were not disappointed for, on rounding the point, we opened a snug little bay, at the head of which we anchored soon after nine P.M., in fourteen fathoms on a bottom of tough clay. We here lay at the distance of two cables' length from the land, which is high all round the bay; and, the strong south-west wind preventing any ice from coming in, we passed a quiet night and our people enjoyed the rest which they much required. Lights were hoisted and rockets occasionally sent up as guides to the Hecla; but as we saw no answer, and she did not arrive in the bay, we apprehended she had been obliged to keep under way during this inclement night.

Frid. 31. At daylight on the 31st we perceived the Hecla under the land to the eastward standing towards us. I found from Captain Lyon that he had, with the same good fortune which we experienced, found a secure shelter during the night, by anchoring close under the land to the eastward, in seventeen fathoms muddy bottom. In order to have a more commanding view of the situation of the ice, on which depended our next movements whenever the wind should moderate, I proposed to Captain Lyon to land and ascend the hill for that purpose. At thirty minutes past eight A.M., however, just as we were setting off, the wind suddenly fell, and the ice began immediately to approach the shore. We therefore weighed just in time to avoid a large floe-piece that drifted into the bay; and, standing over to the main body of ice to the northward, suddenly got soundings in sixteen to twelve fathoms, and then dropped into twenty and twenty-five fathoms, no bottom. The Hecla a little to the westward of us had several casts from seven to five and three quarter fathoms, and, from the rippling occasioned by the tide, it is probable that there is shoaler water in this neighbourhood. Our distance from the south shore was about two miles and a half, and about four from Georgina Island, on an E.b.S. bearing. After standing a quarter of a mile beyond the shoal, the ice obliged us to tack; and as there was not at present the smallest prospect of our getting to the northward, so as to approach Gore Bay, in order to ascertain



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J. Walker Sculp.t

its continuity with the shore on which I landed on the 28th, I determined to run along the edge of the ice to the eastward, and to look for any opening that might there be found practicable, rather than wait inactively in our present situation. Our course was, therefore, directed towards the openings before observed to the eastward, where the land appeared to be broken into several islands. As we approached these, which I named after THE RIGHT HONOURABLE WILLIAM STURGES BOURNE, we found that they presented at least four openings, all of which appeared navigable but for the ice which now choked the three northern ones. The other channel, which is the widest, was however quite clear; we therefore hauled up for it, and discovered soon after to the southward an opening into the Frozen Strait, thus determining the insularity of a large portion of its north-eastern shore, which I named after the RIGHT HONOURABLE NICHOLAS VANSITTART, Chancellor of the Exchequer. The opening now discovered was between Baffin and Vansittart Islands. 1821. August.

The Hecla, in rounding a point of ice which the tide had set in motion, was beset by the loose masses rapidly closing round her, and drifted by the ebb along the island lying on the north side of this channel. She remained in this situation above two hours; when, all our boats having been sent to her assistance, she was towed out into clear water, and joined us at dusk in the evening. The ice having, in the mean time, remained too close to allow us to proceed to the northward, no time was lost by this accident, and we lay-to in open water during the night in the hope of perceiving some favourable change the following day. The night was nearly calm, notwithstanding which the ships appeared to be so little influenced by tide, that they retained their station till daylight without any difficulty or disturbance from ice.

I was sorry to perceive, on the morning of the 1st of September, that the appearance of the ice was by no means favourable to our object of sailing to the northward, along the Sturges Bourne Islands; but at ten A.M., the edge being rather more slack, we made all sail with a very light air of southerly wind, and the weather clear, warm, and pleasant. We were at noon in lat. 66° 03′ 35″, and in long. 83° 38′ 15″, in which situation a great deal of land was in sight to the northward, though apparently much broken in some places. From N.E. round to S.S.E., there was still nothing to be seen but one wide sea, uninterruptedly covered with ice as far as the eye could reach. A prospect like this would naturally convey to the mind of a person little acquainted with this navigation, an idea of utter hopelessness. So apt indeed, Sept. 1 Sat. 1.

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Sea, during the Month of *August*, 1821.

Day	Place.	Temperature of Air in Shade. Maximum.	Minimum.	Mean.	Mean Temp. of Sea Water.	Barometer. Maximum.	Minimum.	Mean.	Prevailing Winds. Direction.	Velocity.	Prevailing Weather.
		°	°	°		inches	inches	inches			
1	Upper part of Hudson's Strait.	+37	+33	+35.17	31.67	29.66	29.57	29.623	a.m. NWbW p.m. SW	modt.	fine
2		39	35	36.25	31.79	29.71	29.58	29.668	SSW	light	fine and clear
3		36	33	34.75	31.00	29.98	29.67	29.817	WNW	a.m. fresh p.m. light	cloudy and rain clear
4		38	32	34.67	31.87	30.12	29.91	30.067	a.m. NW p.m. SSW	light	fine
5	Off the North-Eastern Coast of Southampton Island.	41	35	37.58	33.04	30.14	30.00	30.112	SSW	light	fine
6		47	34	38.25	32.83	30.05	29.74	29.933	SbW	modt.	fine and clear
7		42	35	38.50	33.08	29.70	29.42	29.568	SE	light	hazy and rain, some thunder and lightning
8		37	34	35.58	32.79	29.49	29.32	29.362	a.m. SSE p.m. ENE	light	thick fog and rain
9		40	35	36.50	32.67	29.64	29.32	29.493	NNW	light	cloudy
10		48	35	38.42	32.75	29.75	29.58	29.683	WNW	modt.	fine
11		43	35	38.50	32.12	29.74	29.59	29.635	WSW	modt.	cloudy
12		41	31	35.04	30.88	29.88	29.65	29.787	WNW	fresh	fine
13		41	29	34.50	30.71	29.90	29.88	29.888	a.m. NWbW p.m. Eastly	light	fine
14		41	30	35.67	30.42	29.96	29.89	29.922	a.m. NE p.m. Southly	light	fine
15		47	35	40.50	32.08	29.95	29.91	29.927	WbS	modt.	fine and clear
16	In Duke of York Bay.	47	37	41.42	33.92	29.93	29.60	29.815	a.m. WbS p.m. Southly	fresh	fine
17		45	37	41.75	33.70	29.54	29.48	29.502	SW	mod.	cloudy
18		42	36	37.87	36.17	29.52	29.42	29.472	a.m. Southly p.m. NNW	modt.	foggy
19		45	34	39.04	36.12	29.58	29.35	29.484	a.m. NNW pm. SWbW	a.m. light p.m. fresh	fine cloudy
20	Frozen Strait.	43	35½	38.12	31.87	29.36	29.34	29.352	SW	modt.	cloudy
21		37	29	33.67	32.58	29.80	29.35	29.492	NW	modt.	hazy and rain
22	Repulse Bay	41	28	33.75	33.04	30.00	29.86	29.949	NbE	light	cloudy
23	In the Frozen Strait.	35	30	32.29	31.04	29.96	29.51	29.723	NbE	modt.	hazy and snow
24		34	31	32.42	30.58	29.45	29.37	29.398	a.m. NbE p.m. Southly	light	thick haze and snow
25		36	30	32.46	30.25	29.73	29.46	29.607	NE	light	hazy and snow
26		35	31	32.92	30.92	29.74	29.60	29.670	WNW	light	cloudy
27	In Duckett Cove.	39	30	34.17	31.25	29.73	29.57	29.633	WbN	modt.	fine
28		39	32	36.08	31.58	29.80	29.72	29.765	WNW	light	fine
29		39	35	37.83	31.29	29.86	29.80	29.838	WNW	light	fine
30		47	37	41.37	32.33	29.85	29.75	29.815	a.m. Eastly p.m. WbS	light	fine
31	Off Vansittart Isl.	43	36	39.58	32.42	29.75	29.70	29.722	a.m. SSW p.m. West	fresh light	cloudy fine
		48	28	36.60	32.22	30.14	29.32	29.701			

are we to be influenced by present impressions rather than by those however strong or often repeated, that past events have left upon the mind, that I believe even those who have been the longest habituated to the surprising changes, which an hour or two will frequently bring about in these seas, cannot altogether divest themselves of similar sensations. 1821. Sept. Sat. 1.

At twenty minutes after noon, having advanced only a mile or two through very close "sailing ice," the Fury was beset in trying to force through a narrow though heavy stream, round the end of which the Hecla more prudently sailed. Having hove to on the opposite side of it, Captain Lyon immediately sent his boats with lines to endeavour to tow us out by making sail on the Hecla, a method which cannot be too strongly recommended, and which serves as an example of the mutual assistance that may be rendered by two ships employed on this service. The line proved rather too weak for the weight of the masses of ice, but the impulse communicated by it before it broke, aided by our own exertions, enabled us shortly after to escape, and we again made sail to the northward. At forty-five minutes past one P.M., we had come to the end of the clear water, and prepared to shorten sail, to await some alteration in our favour. At this time the weather was so warm, that we had just exposed a thermometer to the sun, to ascertain the temperature of its rays, which could not have been less than 70° or 80°, when a thick fog, which had for some hours been curling over the hills of Vansittart Island, suddenly came on, creating so immediate and extreme a change that I never remember to have experienced a more chilling sensation. As we could no longer see a hundred yards around us in any direction, nothing was to be done but to make the ships fast to the largest piece of ice we could find, which we accordingly did at two P.M., in one hundred and fifty-eight fathoms, at the distance of three or four miles to the eastward of Sturges Bourne Islands. Just before dark the fog cleared away for a few minutes, when, perceiving that the wind which was now increasing was likely to drift us too near the islands, we took advantage of the clear interval to run a mile further from the land for the night, where we again made fast to a large floe-piece in two hundred fathoms. The ice in this neighbourhood was the heaviest, though not in the largest floes, of any we had yet seen on this voyage. It was for the most part covered with hummocks, and appeared yellow from the quantity of sand that lay upon it, and from which it generally receives the name of "dirty ice." After dark the fog was succeeded by heavy rain for several hours.

1821. Sept. Sun. 2. The wind drawing round to the northward and westward on the morning of the 2d, increased to a fresh gale, which continued to blow during the night; notwithstanding which, I was in hopes that the immense size of the floe to which the ships were attached would have enabled us to retain our station tolerably. It was mortifying therefore to find, on the morning of the 3d, that we had drifted more than I ever remember to have done before, in the same time, under any circumstances. It was remarkable also that we had not been set exactly to leeward, but past Baffin Island towards the two remarkable hills on Southampton Island, from which we were at noon not more than seven or eight leagues distant. Thus, after a laborious investigation which occupied one month, we had, by a concurrence of unavoidable circumstances, returned to nearly the same spot as that on which we had been on the 6th of August. To consider what might have been effected in this interval, which included the very best part of the navigable season, had we been previously aware of the position and extent of the American continent about this meridian, is in itself certainly unavailing; but it may serve to shew the value of even the smallest geographical information in seas where not an hour must be thrown away, or unprofitably employed. Nor could we help fancying at this period of the voyage that, had Bylot, Fox, and Middleton, by their joint exertions, succeeded in satisfactorily determining thus far the extent of the continental land, the time which we had lately occupied in this manner might have been more advantageously employed in rounding, by a more direct route, the north-eastern point of America, and even in pursuing our way along its northern shores.

In the afternoon an attempt was made to move, for the mere sake, it must be confessed, of moving and keeping the people on the alert, rather than with the slightest prospect of gaining any ground; but by the time that we had laid out the hawsers, the small hole of water that had appeared again closed and we were obliged to remain as before.

Tues. 4. On the morning of the 4th the ice remained close about us, but we found at daylight that we had still approached Southampton Island, and were now within five or six miles of a very small rocky islet, not distinctly seen for ice when we first made this coast, but which now appeared black, though very low. This rock, which I named after Mr. Fife, who first discovered it on our former arrival on this coast, lies N.E.b.E. from the two high hills of Southampton Island; its distance from the land is between five and six leagues, and being quite by itself it might, if covered with snow, be easily mistaken for heavy ice. At thirty minutes past eight A.M. the ice slackened for about a mile to the

N.N.W., when we cast off with a light air of westerly wind, and got all the boats ahead, but having gained that distance were again obliged to make fast. In the afternoon the breeze freshened from the southward, with rain, and the ice soon after slackening a little about us we once more made sail, in the hope only of being drifted a short distance among the ice, but without the least apparent chance of forcing even a hundred yards through it in the regular way. It is, however, impossible to judge when circumstances are about to improve among the ice, which now opened so much immediately after we moved, that we advanced eight or nine miles almost without difficulty; and could still have continued to run had not night come on, when, being within a few miles of the small islands to the southward and eastward of Baffin Island, we shortened sail and made the ships fast to a floe-piece, with the intention of pushing in-shore at break of day. It was now my wish to sail through the opening last discovered between Baffin and Vansittart Islands, in order to save as much time as possible in recommencing the examination of the continental coast at the point to which it had already been traced. Our soundings varied during the night from one hundred and three to sixty-one fathoms. 1821. Sept.

At four A.M. on the 5th we cast off and made sail for the land, with a fresh breeze from the south-east. The ice was closely packed against the land near the passage I had intended to try and, as it appeared slack more to the eastward, I determined to run between the south-east point of Baffin Island and the smaller islands lying off it. The wind drawing more to the eastward as we approached the channel, we had several tacks to make in getting through, but carried a good depth of water on each side though its breadth does not exceed three quarters of a mile. As we now advanced to the northward, we found less and less obstruction, the main body of the ice having been carried to the southward and eastward by the late gale which had in so extraordinary a manner drifted us in the same direction. This was one of the opportunities I have before described as the most favourable that ever occur for making progress in these seas. We had therefore a fine run during the day along the east side of Sturges Bourne Islands; for, having found the passages between them still choked with ice, we were obliged to run to the northward with the hope of attaining our present object. A large opening in the land now came in sight in the N.N.W., being that discovered by Mr. Ross on the 28th of August, and which had led us to suppose the land we then stood on would prove insular, and that some communication would be found to the northward of it with Gore Bay. For this opening therefore our course was directed, and in the Wed. 5.

1821. Sept. evening we arrived off a point of the eastern land, which I named CAPE EDWARDS, after Mr. John Edwards, Surgeon of the Fury. We had here twelve fathoms at the distance of a mile from the shore, and found the water deepen gradually as we hauled out. A small stream of ice lay off the point, besides which there was not a piece in sight, and we ran along the shore without obstruction till it was time to look out for an anchorage. Having first sent the boats to sound, we hauled into a small bay where we anchored at dusk, in seventeen fathoms, good holding-ground, though the bottom was so irregular that we had from five to thirteen close upon our quarter. The wind freshened up strong from the eastward and continued to blow during the night, but we lay quite sheltered and secure. A great number of stones set up by the Esquimaux were here observed, placed as usual on every spot most conspicuous from the sea.

Thurs. 6. We began to weigh at break of day on the 6th, but found the ground so tough that we had some difficulty in purchasing the anchors. In effecting this, James Richardson one of the leading-men of the Fury received a severe contusion on his shoulder by the purchase-block falling upon him from aloft *. After running four or five leagues to the northward and westward, we came at thirty minutes after nine A.M. to a small group of islands lying in the channel, and directed our course to the eastward of them. The wind however failing us just in the middle, we hauled out and sent the boats to tow; but whichever way we put the ships' heads, a "cats-paw" every now and then took the sails aback, keeping us for an hour in a very awkward situation, being only two hundred yards from either shore, and in seventy fathoms' water. The boats being sent to sound, several shoals were discovered just beyond us to the northward, but nothing like anchorage near them. As the situation of the ships was now a very precarious one, should any stream of tide begin to run, I determined to tow them into two small nooks near us, where they might at least be out of the way of the tide. Finding here a depth of from seventeen to nineteen fathoms at half a cable's length from the shore, the anchors were dropped, and several hawsers immediately secured to the rocks, to steady the ships. The men from this circumstance, and with their usual humour, called this place *Five-hawser Bay*, by which name I have distinguished it on the chart. We found that the two little nooks communicated by a narrow and

* This accident which produced no eventual injury, occurred in consequence of an iron hook giving way. It is only mentioned in this place, to shew the propriety of substituting lashings for the hooks of blocks, wherever practicable, in this climate.

shallow channel, making the land which intervened between the ships an island about a quarter of a mile in length. 1821. Sept.

We had now once more approached a part of the coast of which the thorough and satisfactory examination could not possibly be carried on in the ships, without incurring constant and perhaps useless risk, and a certain and serious loss of time. I determined therefore to proceed at once upon this service in two boats, one from each ship. Having communicated my intentions to Captain Lyon, and requested him to move the ships when practicable into some more secure situation, I left the Fury, accompanied by Mr. Ross and Mr. Sherer, taking with us our tents, blankets, and stove, together with four days' provisions and fuel.

CHAPTER IV.

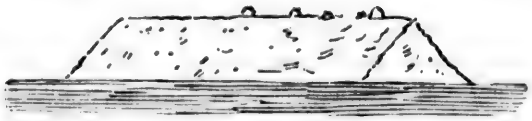
HOPPNER'S INLET ENTERED AND SURVEYED BY THE BOATS—CONTINUITY OF LAND THERE DETERMINED—PROCEED TO EXAMINE ANOTHER OPENING LEADING TO THE WESTWARD—FAVOURABLE APPEARANCE OF A CONTINUED PASSAGE IN THAT DIRECTION—MEET WITH SOME ESQUIMAUX—ARRIVAL IN *ROSS BAY*, BEING THE TERMINATION OF *LYON INLET*—DISCOVERY AND EXAMINATION OF VARIOUS CREEKS—RETURN TO THE SHIPS, AFTER FINDING THE LAND ENTIRELY CONTINUOUS—SOME ACCOUNT OF THE NATURAL HISTORY OF THIS PART OF THE COAST.

1821. Sept. A THICK fog unfortunately coming on just before we left the ships, prevented us from making choice of any part of the land, which might be the most likely to afford a passage to the northward and westward. We could only therefore direct our course northerly with tolerable certainty, by a compass-bearing previously taken on board, and by occasionally obtaining an indistinct glimpse of the land through the fog. Having rowed four miles we came to a high point, round which we turned rather to the westward, and then landed a little beyond it. The fog becoming somewhat less thick, Mr. Sherer and myself ascended the hill in hopes of obtaining a view of the surrounding shores, in order to form a better judgment of the route we should pursue on the following morning. Though the weather still continued very unfavourable for this purpose, we could at times see far enough around us to determine me to follow up the small inlet, which, as we now found, we had lately entered in the boat. It was here one mile across, and seemed to lead first to the N.N.W., and afterwards more to the westward. Contracted as our view was, in consequence of the fog, it was still sufficiently extensive to embrace a number of detached sheets of water which, being magnified by the fog, served to perplex us not a little in conjecturing whether they might be lakes or arms of the sea. Most of them afterwards proved to be the former, and some of them were of considerable size. Having taken all the compass-bearings that the weather would permit we descended to the beach, where

we found that Mr. Ross had hauled the boats up and pitched the tents for the night. A number of deer were seen but they were very wild; a hare or two however and some ptarmigan were procured for our suppers. It was high water by the shore at thirty minutes past six P.M., but no stream of tide was perceptible. 1821. Sept.

The tents were struck at thirty minutes past three A.M., on the 7th, and our course directed up the inlet, the weather being calm and tolerably clear. At three miles and a quarter we passed on our starboard hand a point of land which, from the bright colour of the rocks, composed chiefly of feldspar, obtained the name of *Red Point*. Frid. 7.

At a quarter past four, when we knew the flood-tide must be running, the current was found to set half a knot to the northward, and at seven it was going rather more slowly in the same direction. As far as indications went, this seemed but little encouragement; but as our business was to explore and not to speculate, we continued our progress. After passing Red Point we arrived at a wider part of the inlet, near which is an islet of this remarkable form,



exactly resembling, at a little distance, the roof of a house just shewing itself above the water, some large stones set upright on the top, (probably by the Esquimaux,) appearing like so many chimneys. It consists entirely of small stones and sand intermixed, and has more the appearance of having been placed there by art than by nature. Just beyond this islet, and after rounding a low sandy point on the left, the inlet turns much more to the westward and becomes narrower, with frequent shoals occupying in some places the greater part of the channel. Mr. Ross and I ascended the nearest hill, and saw the inlet still extending to the N.W., though it became narrower than before and apparently much more shoal. The rein-deer were here very numerous on the higher parts of the land; we saw above forty in a walk of two or three miles, and our people met with several more. The vegetation was abundant, consisting chiefly of short thick grass, moss, the *andromeda tetragona* and *ledum palustre*, a sweet smelling plant which here grew very luxuriantly. Much of the ground was wet and swampy, small lakes occurring in almost every

1821. Sept. hollow, and numerous streams of water running from the hills. There was no snow upon the land, nor the smallest vestige of ice on any part of the sea that we overlooked. The rocks, like all that we had lately met with, consisted chiefly of gneiss, traversed by some veins of white quartz and red feldspar from three to twelve inches thick.

The water was falling by the shore during our stay at this place, and at nine A.M. we found the stream setting slowly to the southward, confirming our former observations as to the direction of the flood-tide. At half-past ten we had arrived at the head of the inlet, having rowed thirteen miles from the entrance. This arm of the sea is three hundred yards wide at the top, having three rivulets running into it over a rough stony beach. The land on each side is from six to eight hundred feet high; and at the distance of a mile below the head of the inlet there is, on the eastern shore, a remarkable perpendicular bluff overlooking the sea, composed of red feldspar overgrown in some parts with herbage of various tints, which give to it a striking and picturesque appearance. The soundings are here irregular, varying from one fathom to twelve, but the eastern side, as the bold character of its shore indicates, is much the deepest. After rowing down a quarter of a mile, we took up a bottle of the sea-water which was fresh enough to drink, being in fact, as Mr. Fisher afterwards found by experiment, of nearly the same specific gravity as spring-water. We saw a great many deer on the hills and some flocks of ducks in the water: the latter being mostly too young to fly were so quick in diving that it was not easy to kill them; but Mr. Ross shot a specimen or two, which proved to be the young and the females of the long-tailed duck (*anas glacialis.*)

This part of our examination being concluded, we landed (on our return) at Red Point, in the hope of obtaining observations for the longitude, but the sun remained obscured throughout the day. On this point were the remains of several Esquimaux habitations, two of which were larger than usual, and differing in form from any we had before noticed. They were oval, about fifteen feet in length, and each had three separate bed-places parted off with stones, and composed of the *andromeda tetragona*. There were also in each a similar number of fire-places, so that it had apparently been occupied by three distinct families.

Opposite to Red Point was a small opening, which we next proposed to examine. We had not, however, advanced a mile within the entrance when the boats grounded, the water becoming more and more shoal within.

We therefore landed to obtain the best view we could, and observed the water to extend about a mile beyond us, and then to turn to the southward, in which direction the land obstructed our further view. As it was plain that no passage could here be found for the ships, which alone it was my present object to discover, I did no' choose to wait for the flowing of the tide to enable us further to explore this place, but determined to prosecute our examination of the other parts of the coast without delay. Lieutenant Hoppner subsequently determined the insularity of the land on the south side of this opening by rowing through the passage at high water. There were here a great number of stones placed in an upright position in every conspicuous spot, many of them looking like men at a distance. These marks are generally placed without regard to regularity, but there were here several lines of them about fifty yards in length, the stones being four or five yards apart, and each having a smaller one placed on its top. Having rowed out of the inlet, we landed at six P.M. in a little bay just outside of the last night's sleeping-place, pitching the tents on a fine shingly beach, which was the kind of ground we usually looked out for towards the conclusion of the day, as affording the softest bed, consistently with dryness, that nature supplies in this country. Of such a convenience the men were not sorry to avail themselves, having rowed above thirty miles since the morning. Some old Esquimaux habitations were here completely grown over with long rich grass, a number of bones were scattered about near them, and I found a piece of asbestos and part of a pot of *lapis ollaris*. Near one of the circles of stones were also two walls for resting a canoe upon. 1821. Sept.

The boats were launched at daylight on the 8th, and we soon came to a much more promising opening on the same shore, about a mile wide at the entrance and leading directly to the westward. After rowing four miles in that direction, we arrived at the mouth of a bay from three to five miles wide, out of which there did not appear the least chance of discovering an outlet. As nothing however but rowing round the bay would satisfactorily determine this, we were proceeding to do so, when we observed, in the northern corner, something like a low point overlapping the high land at the back. Towards this spot we steered, as the readiest way of completing the circuit of the bay, and half a mile short of it landed to breakfast. Sat. 8.

In the mean time I sent Mr. Ross to one hill, and ascended another myself, expecting to save the time and trouble of rowing into the nook. I was not a little astonished to find from my own and Mr. Ross's observations, that

1821. Sept. there was on the other side of the point a broad and apparently navigable channel, through which the tide was setting to the northward, at the rate of three or four miles an hour. I am thus minute in the discovery of this channel, which afterwards promised to be of no small importance, to shew how nearly such a place may be approached without the slightest suspicion being entertained of its existence, and the consequent necessity of *close* examination, wherever a passage is to be sought for. An inspection of the chart, together with the narrative of our proceedings for the four or five following days, will afford a striking and perhaps a useful lesson in this respect.

On proceeding in the boats, we found a part of the channel occupied by a small rocky islet nearest to the eastern shore, having a bed of sunken rocks about it, over which the tide was setting with great rapidity and with a loud noise like that of a mill-stream. The passage to the westward of the islet is half a mile wide, and we could find no bottom in it with twelve fathoms of line; on the other side the water is very shoal, scarcely affording a passage for boats at low tide. Beyond this channel, which we distinguished by the name of the Rapids, the inlet again widens out considerably, turning to the westward and afterwards to the northward, a circumstance which could not fail to excite in us the most lively hopes and expectations. At noon we had reached a place where it branched off in so many different directions, that our present stock of provisions appeared insufficient to enable us to accomplish its complete examination. I therefore determined to send Mr. Sherer back to the ships for a fresh supply, as soon as the tide should turn in his favour. That we might lose none of the favourable tide now running, we dined in the boats, and being in the mean time carried onward a considerable distance, at half-past one we landed on an island, in order to make the necessary arrangements for despatching Mr. Sherer, as well as to obtain a view of the surrounding lands. The latter object was, however, defeated by hard rain, which came on soon after, rendering the atmosphere extremely thick. The next island to the northward was chosen as our rendezvous, and a particular point of it agreed on as the spot at which, in passing, we should leave instructions for Mr. Sherer's guidance in following us. He left us at half-past two and the tide being strong in his favour, he succeeded in reaching the Hecla the same night.

In the mean time, we made sail for Rendezvous Island with a strong breeze from the eastward, accompanied by torrents of rain; and having fetched a little bay on its south-west side, pitched our tents on the beach, on which were

several Esquimaux circles of stones. On ascending the higher part of the island the land about us appeared to consist of islands in almost every direction. The main branch of the inlet ran nearly due north, and afterwards seemed to turn westward, which was enough to determine our course on the following morning. We saw here several hares, ptarmigans and ducks, and one or two ravens. The island is composed of gneiss rock traversed in several places by rich veins of pale rose quartz, of which substance large lumps were here and there lying on the surface. I also noticed many roundish masses of quartz in a granular and decomposed state, easily falling to pieces on being handled. 1821. Sept.

The tents were struck at daylight on the 9th; and after leaving a note under a pile of stones at the appointed place, to apprize Mr. Sherer in what direction we should be found, we rowed to the northward. The wind having however got round to that quarter in the course of the night, and continuing to blow fresh, we did not reach the first point of land till nine A.M., by which time the people's clothes were so thoroughly drenched by the sea that I determined to remain here till noon to dry them, and to obtain the requisite observations. The comfort of a dry atmosphere, bright sunshine, and a warm breakfast, under these circumstances and in this climate, can perhaps scarcely be imagined by those who have not experienced it. Sun. 9

The latitude of this point, which stands on a small island, is 66° 57′ 04″, and its longitude, by chronometers, 84° 52′ 17″. The tide was ebbing by the shore from nine A.M. till noon, when we left the point, and on trying the current soon after it was found to be setting E.S.E. half a mile an hour. Our progress now became more and more interesting as we advanced to the north-westward, there being every appearance of broken land in that direction. The inlet was here from two to four miles in breadth, and in most parts sufficiently deep for the passage of ships; so that notwithstanding the direction of the flood-tide which evidently came from the southward, we could not but entertain very sanguine hopes of here finding a continued passage to the westward. This hope received additional encouragement by our perceiving something white upon the water ahead, which we at first took to be a piece of ice. It is not easy to imagine the eager impatience with which we rowed towards this supposed indication of our approach to the sea on this side, nor our disappointment on coming up to it in finding it only a rock of a yellowish-white colour, just peeping above the water's edge.

Proceeding along the south-western shore, we left in several places fresh

1821. Sept. directions for Mr. Sherer, and at three P.M. being doubtful of the best route to pursue, landed to obtain a better view. There was here an inlet near a mile wide within, but having an entrance not more than forty yards across and very shoal, out of which the water was rushing with great rapidity. Imagining this to be a river, Mr. Ross and myself hastened to the bank to taste the water, which proved so intolerably salt as to set aside any further conjectures of this nature. We found here as usual many deserted habitations of Esquimaux, and numberless upright stones, especially on the banks of the stream just mentioned.

On the northern shore, directly opposite to us, was some of the highest land we had yet seen next the sea hereabouts; and as our present station did not afford a satisfactory view we rowed over to the other side, for the purpose of ascending the hills, by which means much time and labour may often be saved in exploring places of this nature. This plan now also seemed the more eligible as, in case of the inlet still extending to the westward, it would be necessary to wait somewhere for Mr. Sherer to overtake us, so that both these objects might thus be advantageously combined. The night was cold, but beautifully clear and serene, and while the last rays of the sun still tinged the western horizon, the moon appearing upon the cloudless sky exactly opposite the door of our tent, with her beams reflected from the unruffled surface of the water, created one of those tranquil scenes where all nature seems hushed into repose, and of which, without knowing precisely why, the mind very long retains the remembrance.

Mon. 10. Early on the morning of the 10th I ascended the hill, accompanied by two of the men, leaving Mr. Ross at the tents to obtain the usual observations. From the top of this hill, which is not less than seven hundred feet above the level of the sea, I had an extensive and commanding view of the lands around us, and found that we might still proceed to the westward, in which direction there seemed more than one opening between islands. The water that appeared at the back of the isthmus on which the tents stood proved to be a shoal and narrow branch of the sea, of which we could now trace the extent. Having obtained angles for every object in sight I returned to the tents about noon, and was soon gratified by the arrival of Mr. Sherer, accompanied by Mr. Bushnan, whose knowledge of Gore Bay was likely to prove of service, should this inlet, as now seemed not unlikely, be found to communicate with the land in that neighbourhood. The latitude of the tents was 66° 59′ 06″, and the longitude, by chronometers, 84° 59′ 35″. It was low water

by the shore at eight P.M. on the 9th, and at twenty minutes past eight A.M. on the 10th, the rise and fall being only six or seven feet. We saw a number of deer, and killed a few ptarmigan during our stay at this place; the former were in general very wild, being probably at this season a good deal hunted by the Esquimaux. The surface of the land presented one uniform mass of grey gneiss, except in the valleys and smaller hollows, where the vegetation, as well as moisture, was abundant. 1821. Sept.

The boats being re-loaded immediately after Mr. Sherer's arrival we proceeded to the westward. Having passed several islands on our left we kept close along the northern shore, which here began to trend considerably to the southward of west. In running along the coast with a fresh and favourable breeze, we observed three persons standing on a hill and, as we continued our course, they followed us at full speed along the rocks. Having sailed into a small sheltered bay I went up, accompanied by Mr. Bushnan, to meet them on the hills above us. In sailing along the shore we had heard them call out loudly to us, and observed them frequently lift something which they held in their hands; but on coming up to them they remained so perfectly mute and motionless that, accustomed as we had been to the noisy importunities of their more sophisticated brethren, we could scarcely believe them to be Esquimaux. There was besides a degree of lankness in the faces of the two men, the very reverse of the plump round oily cheeks of those we had before seen. Their countenances at the time impressed me with the idea of Indian rather than of Esquimaux features; but this variety of physiognomy we afterwards found not to be uncommon among these people. The men appeared about forty and twenty-two years of age, and were accompanied by a good-looking and good-humoured boy of nine or ten. They each held in their hand a seal-skin case or quiver, containing a bow and three or four arrows, with a set of which they willingly parted, on being presented with a knife in exchange. The first looks with which they received us betrayed a mixture of stupidity and apprehension, but both wore off in a few minutes, on our making them understand that we wished to go to their habitations. With this request they complied without hesitation, tripping along before us for above two miles over very rough ground, and crossing one or two considerable streams running from a lake into the sea. This they performed with so much quickness that we could with difficulty keep up with them, though they good-naturedly stopped now and then till we overtook them. We were met on our way by two women, from twenty to twenty-five years of age, having each a child at

1821. Sept. her back; they too accompanied us to their tent, which was situated on a high part of the coast overlooking the sea. It consisted of a rude circular wall of loose stones, from six to eight feet in diameter and three in height, in the centre of which stood an upright pole made of several pieces of fir-wood lashed together by thongs, and serving as a support to the deer-skins that formed the top covering. Soon after our arrival we were joined by a good-looking modest girl of about eight, and a boy five years old. Of these nine persons, which were all we now saw, only the elder man and two of the children belonged to this tent, the habitations of the others being a little more inland. The faces of the women were round, plump, tattoed, and in short completely Esquimaux. During the cursory examination of these people's dresses which we had now an opportunity of making, I observed nothing beyond the peculiarities which have been repeatedly described, except that the tails of the women's jackets were of unusual length as well as breadth. The *kayak* or canoe belonging to this establishment was carefully laid on the rocks close to the sea-side, with the paddle and the man's mittens in readiness beside it. The timbers were entirely of wood, and covered as usual with seal-skin. Its length was nineteen feet seven inches, and its extreme breadth two feet; it was raised a little at each end, and the rim or gunwale of the circular hole in the middle was high, and made of whale-bone. A handsome seal-skin was smoothly laid within as a seat, and the whole was sewn and put together with great neatness. The paddle was double, made of fir, and the ends of the blades tipped with bone, to prevent splitting.

The fire-place in the tent consisted of three rough stones carelessly placed on end against one side, and they had several pots of *lapis ollaris*, for culinary purposes. These people seemed to us altogether more cleanly than any Esquimaux we had before seen, both in their persons and in the interior of their tent, in neither of which could we discover much of that rancid and pungent smell, which is in general so offensive to Europeans. One instance of their cleanliness which now occurred, deserves perhaps to be noticed, both because this is justly considered rather a rare quality among Esquimaux, as well as to shew in what way they do sometimes exercise it. When leaving the tent, to return to our boats, I desired one of the seamen to tie the articles we had purchased into a single bundle, for the convenience of carrying them; but the elder of the two male Esquimaux, who watched the man thus employed, would not permit it to be done without excluding a pot, which, as

he explained by wiping the lamp-black off with one of his fingers, would soil a clean seal-skin jacket that formed part of the bundle. 1821. Sept.

Among the few domestic utensils we saw in the tent was the woman's knife of the Greenlanders described by Crantz, and resembling, in its semi-circular shape, that used by shoe-makers in England. The most interesting article, however, was a kind of bowl exactly similar to that obtained by Captain Lyon from the natives of Hudson's Strait, being hollowed out of the root of the musk-ox's horn. As soon as I took the cup in my hand, the boy who was our first companion, and had since been our constant attendant, pronounced the word *oomingmuk*, thus affording an additional confirmation to that obtained on the former voyage, of the musk-ox being the animal described by the natives of the west coast of Greenland, as having occasionally, though rarely, been seen in that country.

As soon as the Esquimaux became a little more familiar with us, they repeatedly asked for *sowik* (iron), in answer to which we gave them to understand that they must accompany us to our boats, if they wished to obtain any of this precious article. Accordingly, the whole group set off with us on our return, the males keeping up with us, and the women a short distance behind. The whole of the children carried bundles of the branches of ground willow, which we had just before seen them bring in for their own use, and which they seemed to consider an article of barter that might be acceptable to us. As we returned, I noticed a quantity of the *ledum palustre*, and having plucked some of it, gave it to the boy to carry; after which, though he very much disliked its smell, he gathered every root of it that we came to, and deposited it at our tents. This lad was uncommonly quick and clever in comprehending our meaning, and seemed to possess a degree of good-humour and docility, which, on our short acquaintance, made him a great favourite among us.

We had hitherto been much pleased with our new acquaintance, who were certainly a good-humoured decent sort of people. We therefore loaded them with presents, and endeavoured to amuse them by shewing them the manner of rowing our boats, which were hauled up on the beach. While the men and children were occupied in observing this, the women were no less busily employed, near the tents, in pilfering and conveying into their boots, some of our cups, spoons, and other small articles, such as they could conveniently secrete. This they accomplished with so much dexterity, that no suspicion would have been excited of their dishonesty, had not Mr. Sherer fortunately

1821. Sept. missed a cup which was required for supper. A general search being instituted in consequence, and the cargo of the women's boots brought back to our tents, I directed all our presents to be likewise taken from the two offenders; and, dismissing the whole party with great appearance of indignation, thus put an end for the present to our communication with these people.

Tues 11. We moved before broad daylight on the 11th, and, after two hours' progress, began to perceive every appearance of our having once more got into a close bay, round the shores of which we now proceeded to row. A deer was here chased into the water, but being on the side of the island opposite to our boats, escaped our pursuit. These animals seem to consider the sea as a great security to them, and they swim fast and to a considerable distance. The nearest island, for which the deer struck out this morning, with a strong breeze and a breaking sea not altogether in his favour, was above two miles distant.

We landed just before noon, in the hope of obtaining the meridian altitude, but the sun being obscured we continued our circuit of the bay, and at two P.M. put on shore near the mouth of a small creek. The wind had now increased to a stiff gale from the eastward, which being right down the creek, we were above two hours in reaching the head of it, though it is not more than three miles in length. Its breadth varies from one and a half to half a mile, and the shores on both sides are high. One mile from the entrance is an island nearest to the south shore, from which a herd of seven fine deer swam to the main land on our approach, and in consequence of the wind and sea obstructing us landed, before we could get up with them. We now commenced our return along the starboard shore, having no longer any hope of finding an outlet to the westward in this direction. To the bay that thus terminated the inlet, which had till now excited such encouraging hopes, I gave the name of Ross Bay, in compliment to the gentleman who had accompanied me during the whole of this examination. We landed at sunset at the mouth of another creek, which was reserved for examination on the following morning; and were not sorry to pitch our tents on a fine shingly beach, after a cold and wet day's work. We here saw as usual several deer, but nothing except a marmot and a covy of nine ptarmigan were killed in the course of the day.

Wed. 12. After an hour's rowing on the morning of the 12th, we found the creek terminate at the distance of two miles and a half in a south-east direction

from its entrance, being from a mile to a mile and a quarter in breadth, with good depth of water, and having several small islands near its mouth. Proceeding without delay on our return, we landed at nine o'clock at the supposed river discovered on the 9th, where it was low water by the shore at thirty minutes past nine A.M. The wind was moderate from the eastward, with small drizzling rain. At two P.M. we once more landed on Rendezvous Island, as well for the purpose of picking up some provisions which I had directed Mr. Sherer to leave here in case of accidents, as to ascertain from the hill what parts of the inlet in this neighbourhood yet remained to be examined. The weather being now more clear than when we had last reached this central point of the inlet, we found that an opening to the eastward and two to the westward still presented themselves. I, therefore, chose the most northerly of the latter for our next examination, and that this might be pursued with confidence to the requisite extent, I once more despatched Mr. Sherer back for a fresh supply of provisions, and having, from the hill, fixed on a remarkable islet for his first rendezvous, directed him to follow us as before. 1821. Sept.

These arrangements being completed and Mr. Sherer despatched, we left the island and rowed over to the creek which I named, after that gentleman, Sherer's Creek. We found this arm of the sea to have more than one entrance, there being some islands on the northern side; but the passage to the southward of them is much the broadest. Having reached the first appointed rendezvous, we found it to be a small insulated rock of gneiss thickly studded with garnets. We here fixed a pike with the necessary directions to Mr. Sherer, and then put on shore for the night in a small snug cove, where we found the usual traces of Esquimaux visitors.

The weather was calm with rain during the night; and a thick fog on the morning of the 13th, prevented our moving till thirty minutes past six, when we proceeded up the creek, and in less than two hours had reached the head of it. Near this spot we raised a conspicuous pile of stones, with a memorandum deposited under it for Mr. Sherer; and then crossed over to the south shore, which it was now our object to trace closely along till we came to the second of the westerly openings before noticed. Soon after noon we arrived at a low point, off which we perceived a very strong rippling of tide setting from the southward between the main land and an island lying off it. As we approached this point, where the passage is not more than one-third of a mile across, another appeared a little beyond it, round which the tide was running with still greater rapidity; it now became doubtful whether we could Thur. 13.

1821. Sept. proceed much further. After hanging on for ten minutes, the utmost exertion of the men at the oars enabled us to pass the first point; but the attempt to pass the second must not only have been useless but dangerous, the tide running full six knots over some shoal ground, with an overfall like that under bridges, making the level of the water about eighteen inches higher on one side of the point than on the other. We landed therefore at a smooth place under a sheltered part of the rocks, till the tide should enable us to proceed; and we were not a little pleased to find, by walking across the point, that the direction of this rapid flood-tide was from the south-west, and to all appearance proceeded out of the opening we were next about to explore. While employed here in drying our clothes and tents, we fortunately observed two boats rowing up the inlet, and were soon joined by Messrs. Henderson and Sherer in a boat from each ship, bringing a fresh supply of provisions and fuel. I now learned from Captain Lyon that, as the ice had come in near the ships, he proposed as soon as practicable to move them higher up, and, if possible, nearer the entrance of the inlet in the examination of which we were at present engaged.

As I now entertained the most sanguine hopes of at length finding a passage to the westward, without the necessity of going round all the land we had seen in an opposite direction, I could not but consider the present supply a most opportune one. We therefore loaded the boats as deeply as was consistent with safety, concealing the remainder under a heap of stones, as a resource on our return; and despatched Mr. Henderson back with one of the boats, together with such articles as were no longer likely to prove useful to us.

The latitude of this point is 66° 51′ 06″, and its longitude, by chronometers, 84° 43′ 19″. The rocks near the sea presented one continued and bare surface of granite and gneiss; but a little way inland there was no want of vegetation, and several hares were killed. The tide, for which we impatiently waited, gradually slackened between three and four P.M., at which time it was high water by the shore, and the stream of ebb immediately began running to the southward. In addition to the sanguine hopes we entertained of now making some useful discovery, we were also congratulating ourselves on the advantage we should derive from the strong and favourable ebb-tide just about to make, and which we trusted would enable us to end all our doubts and apprehensions before the close of this day. Our disappointment may therefore in some measure be conceived on finding that the rapid flood-tide, on which

our expectations had been built, did not come from this opening as appearances had led us to suppose, but from the eastward, passing to the southward of the island, and then receiving a check from some shoals and islets, which caused it to sweep round almost at a right angle, assuming the appearance of a south-western tide by which we had lately been deceived. This was made apparent by our now meeting the ebb setting against us at the rate of a mile an hour, which unfavourable indication was shortly after confirmed by our reaching the head of this little branch of the sea, which is six miles in length and three-quarters of a mile in its general breadth, and was named by Mr. Ross's desire CULGRUFF CREEK. We landed just before sunset, and knowing that we could not repass the point below as long as the ebb was running, I sent Messrs. Ross and Bushnan to a high hill in the neighbourhood, with the hope of their obtaining a good view to the south-westward before dark; but it being already dusk before they reached the summit, and the prospect being somewhat obstructed by intervening land, no information that then seemed of much importance was thus gained. Near the entrance to this creek, on the north shore, is a hill of a remarkable shape, seen at a considerable distance to the eastward. 1821. Sept.

We left the beach at five A.M. on the 14th, and arrived at the point at half-past six, when we found the stream of ebb setting so strongly against us as to render it impracticable to stem it with the oars and sails. Finding therefore after breakfast that much time must be lost if we waited for low water, we attempted the expedient of "tracking" the boats round the point which, after one or two narrow escapes on account of the breaking sea occasioned by the tide, was safely effected in half an hour; and at nine o'clock, having re-loaded the boats, we once more embarked on the opposite side of the point. Frid. 14.

There now remained to be examined only a small portion of the opposite or eastern shore, which from Rendezvous Island had appeared to present an opening. The direction of this coast was indeed diametrically opposite to that in which it was our object to find a passage for the ships; but as it was impossible to judge what turnings the land might there take, I determined to persevere in the plan I had from the first pursued, of leaving no part of the coast without actual and close examination. Rowing therefore across the tide, and passing the point which seemed to form one side of the mouth of the opening we were now to examine, the direction of the land led us to the E.S.E. A little before noon, after passing some low sandy islands which occupy the greater part of the entrance, we landed to obtain the meridian

1821. Sept. altitude, which gave the latitude 66° 50′ 40″. While thus employed a fine doe and her fawn took the water near us, and would have been easily overtaken had not our people been straggling about with their guns, so that only half a boat's crew could be made up to go in pursuit of them. Judging by the velocity of the boat through the water, I should think these animals swam across the creek at the rate of between two and three miles an hour, the distance being one-third of a mile. The doe could evidently have gone faster if alone, but she kept so close to her young one, that our people positively declared the latter sometimes rested on her back, or, as they expressed it, was "taken in tow by her." The doe, having landed first, turned round to face us, trembling violently, but remaining on the spot till the fawn joined her, when they trotted off together and thus escaped.

The tide was running to the westward during the time that the water was falling by the shore this day; at noon it was flowing and the stream setting up in our favour at the rate of half a knot. In less than half an hour after leaving the shore, we saw clearly to the head of this creek, of which the breadth had now become narrowed to three or four hundred yards. We found, however, a good depth of water after passing the islands at the entrance, on neither side of which did we carry above fifteen feet through the channel. I named this place, which was the last we had now to explore, after my friend Mr. George Norman, jun. of Bath.

To save time on our return we rowed towards an isthmus on the west shore, which we had observed in the morning, and over which we now proposed hauling the boats. On reaching the spot, however, we found that even this labour might be spared, as the water, being at this time higher, afforded a shoal and narrow passage, which must be quite dry at low tide. The stream of flood was here setting north-east at the rate of two miles per hour. We next rowed into a small bay about a mile deep, and after remaining on shore there for three quarters of an hour, till it was high water, set out at twenty minutes past four P.M. on our return to the ships. The stream began to set down in an hour after; and being thus assisted by a rapid and favourable tide, we fortunately just before dark discovered the Hecla at anchor near the mouth of the inlet, and arrived on board at thirty minutes past six P.M.

I learned from Captain Lyon that the Hecla had just anchored at her present station, the Fury still remaining at the former place, into which the ice had lately come so thick as to require the assistance of all hands from both ships to warp and tow the Hecla out. Proceeding with a fresh boat's crew

towards the Fury, which we found close beset by thick and heavy ice, we succeeded after much difficulty in hauling the boat through it, and arrived on board at 10 P.M. 1821. Sept.

The next object to which my attention was directed was the connecting of the coast last examined, with that of Gore Bay—an object that might perhaps have been effected during my absence; but I did not consider it prudent, in the insecure situation in which I had been obliged to leave the ships, to take more than one boat's crew from each, which number out of our small complements of working men bore a large proportion to the whole strength that might be required on any emergency. The absence of two boats from either ship, indeed, scarcely left hands enough to purchase the anchor, much less to handle them with the alacrity necessary among ice, and in a confined and rocky navigation. It remained therefore to complete this examination in the boats, as soon as the Fury could be extricated from the ice by which she was at present beset.

This ice consisted of heavy and large floe-pieces, which pressed with considerable force upon the cable; but the strain being steady, the ground good, and little or no stream of tide running, the anchor did not come home. It may here be of service to remark that, in smooth water and in situations *where there is no perceptible stream of tide*, a ship's safety is not so much endangered by the approach of a large body of loose ice as might be supposed. The smaller pieces are pushed astern by poles, the larger masses, not coming with any violence, rest across the cable or bows without doing any damage, and the space between the ship and the land is generally soon filled up with ice, so as to preclude the possibility of her being driven on shore, even should the anchor afterwards come home.

As soon as the tide would serve in the offing, on the morning of the 15th we weighed, and by means of warping and towing, in which we were assisted by Captain Lyon's boats, succeeded in joining the Hecla at her anchorage at three P.M. About the same time Lieutenant Hoppner arrived, having re-examined that arm of the sea which I had at first explored; being the only one near, Captain Lyon had in pursuance of my directions instructed him to trace it, not knowing that I had already done so. From Lieutenant Hoppner's report and observations however much useful information was derived in laying down the coast. Among other things the extent and communication of the opening I had entered but could not pass on the 7th, had now Sat. 15.

1821. Sept. been determined by rowing through at high water, and returning to the ships by that route. To this arm of the sea I gave the name of HOPPNER'S INLET; and the more extensive one which I had lately returned from exploring, was distinguished by the name of my brother-officer, CAPTAIN GEORGE FRANCIS LYON.

While a boat from each ship was preparing for our next excursion, I communicated to Captain Lyon my wishes respecting the movement of the ships, directing him to follow me down the south-western land as soon as it might be practicable, that no time might be lost in prosecuting the voyage either in the direction I was now about to pursue, should I there discover an outlet to the westward, or failing to do so, to the eastward of the land now in sight, which in that case would prove to be a part of the continent. With a view also to save time on my return, I requested Captain Lyon to endeavour to ascertain whether a portion of land to the south-eastward of the inlet, on which it was our lot afterwards to winter, was insular or connected with the main land. These and other necessary arrangements being shortly made, I left the ships at thirty minutes after four, P.M., accompanied by Messrs. Ross, Sherer, and Mac Laren, the two latter gentlemen in the Hecla's boat, the whole party being victualled for nine days.

Previously however to my commencing the account of our next boat-excursion, I gladly avail myself of some extracts from Captain Lyon's Journal during the time of my late absence, to complete the narrative of proceedings up to this period.

"The ships having been principally stationary during the time of Captain Parry's absence, the remarks which I am enabled to offer must be chiefly confined to such observations on this part of the coast as I had then an opportunity of making. I must first, however, briefly notice the proceedings of the ships during that interval.

"Previous to Captain Parry's leaving us, he had expressed to me his wish that the ships should, as soon as convenient, be removed to some more commodious anchorage than that in which we lay, provided I succeeded in finding one on the eastern shores of the inlet. I therefore occupied two days in examining the coast to the north-eastward, but did not succeed in finding any spot so well sheltered as the one in which we

were. I therefore decided on not moving the ships unless circumstances should render it necessary. 1821. Sept.

"On the 11th I was convinced that our present situation was by no means secure, by observing that the opening between the Fury's anchorage and the high islands off it was quite filled up with a large and heavy floe, which had been brought into the inlet by the recent southerly winds. During the whole day other heavy masses of ice were forced on it from the same direction, and the entrance of the inlet appeared to be rapidly filling. The tides at this time were at their highest (fourteen feet), and I feared they would ultimately cause the disruption of our protecting floe, and thus allow the whole body of ice to set on the ships. On the 12th therefore I sent to order the Fury to proceed to an open bay about three miles to the northward, through a passage amongst some low islets lying off our anchorage, and which had been already sounded by our boats. On learning that the Fury was secured, we weighed and stood through the same channel, but the tide was then at its lowest ebb, and in the centre we clearly saw the bottom at the depth of four fathoms; our lead at one cast fell on a sharp pointed rock which had escaped the notice of the sounding boats in eight feet water. We fortunately met with no others, and anchored at sunset near the Fury. Mr. Sherer having returned from Captain Parry, brought me an instruction, that any inlet or opening in the land near us, which the fog had obscured at his departure, should be examined before his return, if it could be done consistently with the safety of the ships. I now therefore despatched Lieutenant Hoppner, with directions to explore the only opening of that kind which presented itself.

"As the ice had accumulated considerably in the centre of the islet, I employed myself successfully in seeking an anchorage to the northward, and on my return in the evening found the ships so closely beset as to render it very difficult to reach them with the boat. On the 14th I determined on moving, and with the assistance of the Fury's people and boats succeeded in getting into open water after four hours' labour, although the distance we warped through the ice did not exceed one mile. We then ran to the northward, and anchored about five miles from the Fury, off a shingle beach near the entrance of that branch of the inlet which Captain Parry was employed in examining. Owing to the length of time occupied in removing the Hecla, we found it was too late to bring the Fury out also, and she therefore remained beset for the night.

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"In some of the excursions I made to the hills which bound the inlet, I found them without exception to be composed of granite and gneiss, presenting rugged, irregular outlines, and entirely void of vegetation on their tops; yet even here we found evident proofs of the Esquimaux having made their temporary residence, as we frequently observed piles of stones erected by these extraordinary people, and also the circular little walls which form the lower part of their habitations. In situations nearer the sea these indications were so frequent that it became a matter of surprise if we did not find some vestiges of their little settlements on the lower points. One in particular which we discovered at a short distance from our first anchorage bore evident marks of its having been very recently occupied, and many were of opinion that the natives had quitted it on our approach. The circles amounted to eleven; on many of their fire-places the soot was quite recent, and quantities of bones of seals, foxes, and other animals were scattered round; some had small portions of flesh still adhering to them. We were much astonished on finding at least a dozen pair of mittens and socks, some of which were nearly new. A few of the huts had a little elevation at either end, and neatly spread with small branches of what appeared to me a kind of birch, (although we had seen none growing,) tied together in bunches, and from their arrangement to all appearance intended as the base of beds. We also found a curious kind of net, having large open meshes of about two inches diameter, and entirely composed of small and strong hoops or rings of whalebone, firmly lashed together with thongs of the same material. This net would appear to be of the same kind as that described by Davis as found by him amongst the natives of Greenland. A few broken spear-heads and implements of ivory were also picked up, and I am of opinion that the removal of the people must have been very hurried.

"From the remarkable form of the coast it is not surprising that the Esquimaux should make choice of it for their occasional settlements, and they have a most important inducement in finding such profusion of their necessary food, for the seals are here in great numbers and appear extremely bold and fearless, which must render them an easy prey to these expert fishermen. In a short excursion which some of our gentlemen made in the small boat, they were so fortunate as to obtain four in a short time; two were very large and fat and the others quite young.

"The great quantities of seals which we constantly saw in this place are

doubtless attracted by the shrimps, moluscæ, and other marine productions, with which the sea abounds to an extraordinary degree. The gulls *(larus glaucus* and *argentatus,)* the eider and other ducks, and the divers *(colymbus troile* and *septentrionalis,)* which are also numerous, appear to derive a plentiful subsistence from the same means which nature has so amply provided. To this may perhaps be attributed the occasional visits we received from whales, black and white, of which the latter were in far the greatest numbers, but not so frequently seen near the ships. While at our first anchorage a large black whale came and lay so close to our gangway as to be within reach of a harpoon, but while the officer of the watch ran down to inform me of the circumstance the fish moved from us. 1821. Sept.

" Our sportsmen met with very tolerable success in their rambles and procured a plentiful supply of hares and ptarmigan, but were not so fortunate as to kill above two deer. Several ermines and marmots were also taken, and three foxes of a bluish colour evidently advancing to their wintery hue. In the hills of which I have spoken as consisting of granite and gneiss we found numerous lakes, some of which, although of no great extent, must from their situation have been of considerable depth. They appeared to be the resort of the young of the red-throated diver, some of which birds we killed, and it may thence be inferred that they contain sufficient food for their subsistence. One of the officers caught a large salmon-trout in a piece of water a very considerable height up the hills. In the valleys the vegetation, although at this time on the decline, appeared to have been very rich, abounding in grasses, and some other plants, but the sorrel had all withered. Some gentlemen who visited the isles lying off Five-hawser Bay, found that iron-stone bore a considerable share in their formation, and some pieces which they brought on board emitted a strong sulphureous smell on being heated, and had in a slight degree the power of attracting iron. A few small rounded pieces of graphite were also procured from the same place; their appearance was like those ashes which are found in a blacksmith's forge. Along most of the beaches we found that the rocks were absolutely studded with garnets of a clear and brilliant colour, but in a state of decomposition, which caused them to break easily on endeavouring to detach them from the rocks in which they were embedded. Amongst the shingle we obtained several fine specimens of madrepore, and also found a few fossil shells, of which some were of a deli-

1821. Sept. cate and well-defined form, enclosed in limestone, generally of the fetid kind. In a small water-course I picked up some curious pieces of steatite, which appeared to have come from a neighbouring hill, through the face of which to the northward I observed a broad vein of a green sandstone running in an oblique direction. I obtained some extremely interesting specimens at this part, one of which from a block of granulated quartz contained a quantity of thin laminæ of graphite, of a very pure and brilliant colour, but which with the slightest touch left a very dark mark.

"Although the weather had in general been fine during Captain Parry's absence, yet we frequently found that during the night a thin sheet of ice was formed in the small bays and other sheltered places."

CHAPTER V.

FURTHER EXAMINATION IN THE BOATS FOR THE PURPOSE OF CONNECTING THE SHORES OF *LYON INLET* WITH THAT OF *GORE BAY*—DETAINED BY THE ICE—REACH GORE BAY—CONTINUITY OF THE LAND DETERMINED—FRESH DETENTION BY THE ICE—BOATS CARRIED OVER LAND—RETURN TO THE SHIPS—PROGRESS OUT OF THE INLET PREVENTED BY THE ICE—THE FURY GROUNDS UPON A ROCK—ANCHOR IN *SAFETY COVE*—HEAVY EASTERLY GALES—PROCEED OUT OF THE INLET—ARRIVAL IN A BAY ON THE SOUTH SIDE OF WINTER ISLAND—SHIPS SECURED IN WINTER-QUARTERS.

At the time of my quitting the ships the ice was in sight from the mast-head, stretching across the mouth of the inlet, a few miles below our anchorage, while the sea was only partially covered with loose masses near our last station, and higher up was entirely free from it. I was in hopes, however, of being able to find our way along-shore in the boats without incurring any great loss of time; and, at all events, there was a satisfaction in knowing that, should the boats fail in doing so, it would be in vain to attempt it in the ships; so that, in every point of view, our present plan was the only advantageous one that could be adopted. 1821. Sept. Tues. 15.

We rowed before sunset between six and seven miles along the high south-western land, passing what appeared a small harbour, with an island near the middle of the entrance, and landed on a shingly beach near a small bay or creek, extending three quarters of a mile to the W.N.W. and then terminating in a deep broad valley. There were here three or four acres of thick, close, and rather long grass, affording excellent feeding for the rein-deer and hares of which several were seen. A great number of white whales were playing about near the beach. We left the shore at half-past four A.M. on the 16th, and in an hour's sailing with a fresh north-west wind came to some loose ice, through which we continued to make our way till eleven o'clock, when it became so close that a passage could Sun. 16.

1821. Sept. no longer be found in any direction. There was also so much young ice in every small interval between the loose masses, that the boats were much cut about the water-line in endeavouring to force through it. We were now abreast of a remarkable bluff, called, after the master of the Fury, ALLISON'S BLUFF, and forming the northern point of an open bay, in which alone there was the smallest pool of clear water to be seen. In order, therefore, to avoid the risk of being altogether driven from the shore, I determined to attempt a passage into the bay, which was three quarters of a mile distant; and in this, after two hours' labour, we at length succeeded. The tents being pitched and the boats hauled up, a part of our hands were employed in repairing the damages occasioned by the young ice, while the rest were despatched inland in search of game: in this pursuit they were not successful, only one hare being brought in before dark. Finding that the ice was likely to prove an obstacle of which we could not calculate the extent or continuance, we began at once to reduce our daily expenditure of provisions, in order to meet any contingency.

Mon. 17. Ascending the hill at daylight on the 17th, we were much disappointed in finding that, though the ice continued to drive a little to the S.E., it was even more compact than before, the loose masses through which we had sailed the preceding day being now closely set together. Our people were to-day rather more successful in pursuit of game, bringing in seven hares before sunset. These animals were quite white, presenting so strong a contrast with the colour of the ground on which no snow as yet remained, as to render them very conspicuous at a distance; and we often killed them on landing, by having observed their situation while rowing along-shore at the distance of half a mile or more. Several of the ermines also which we had procured for the last week or two were entirely white, except the little brush at the tip of the tail, which was black. In other specimens of this animal, however, the back was quite brown and the belly of a delicate light straw or sulphur colour.

Tues. 18. It was high water on the morning of the 18th, at four o'clock, being somewhat *earlier* than the preceding tide; a kind of irregularity which was very common about the mouth of Lyon Inlet at this season, rendering it impossible by one or two observations to calculate the true time of tide on the full and change days of the moon. As soon as it was light enough to make out the situation of the ice, which had now drifted considerably to the southward, we left the bay with a fresh and favourable breeze, and at a quarter

past eight A.M., after a quick run through "sailing ice," landed to breakfast on the south-east point of this shore, which afterwards received the name of CAPE MARTINEAU, out of regard for a highly esteemed friend and relative. There being a number of small islands and shoals about this point, we found much difficulty in picking our way through the ice lying aground upon them, which, however, we at length effected; and after passing the S.W. point, which I named after MR. M'LAREN, got into clear water to the westward, crossing an open bay with a shoal near the middle of the entrance. Proceeding from hence with a strong breeze and a considerable sea ahead, but the flood-tide still running slowly with us to the N.W., we rowed several miles close along the shore, and entered at dusk a little cove, where the tents were pitched and the boats moored for the night. 1821. Sept.

The night being cold, clear, and nearly calm, a quantity of "bay-ice," half an inch in thickness, had on the morning of the 19th formed in the cove, and for some distance outside of it, which again cut the boats' planks very much, besides occasioning great loss of time in getting through it. This symptom of approaching winter, which had now for the first time occurred to us, rendered it expedient in future to select the most open beaches for our resting-places at night. As soon as we had extricated ourselves from this impediment, we rowed along without further hinderance, as no young ice had formed in the deeper water of the offing. After tracing every bend of the shore which here occurred, and especially that of a bay named, by Mr. Sherer's request, MOYLE BAY, we landed at the point called by Captain Lyon, POINT FARHILL, at a quarter past seven; and ascending the hill to take angles obtained a view of Gore Bay, easily recognising every other feature of the lands discovered by Captain Lyon. A mile or two of coast was now all that remained to be examined, in order to determine the connexion of Gore Bay with the rest of the land recently explored. Proceeding therefore as soon as our observations were finished, we soon after entered the bay, and in the course of an hour had satisfied ourselves on this point. The weather being very fine, however, I determined to row to the head of the bay, for the purpose of obtaining observations; and we reached it exactly at noon in time for the meridian altitude. Wed. 19.

The place at which we landed proved to be a low and narrow isthmus, having on the other side a creek about a mile long and half a mile in breadth. The north shore of this creek, which is the northernmost land

1821. Sept. of Gore Bay, is high at the back, but with a strip of low land at the foot of the hills, affording abundant pasturage for the numerous rein-deer that frequent it. The stone circles of above twenty Esquimaux tents were met with upon the isthmus, but they all appeared to have been long deserted. We saw several black whales and a few seals near the beach, upon which a number of masses of ice were aground, though there was none afloat in the bay. The isthmus is composed of small loose fragments of gneiss, granite, feldspar, quartz, hornblende, and some limestone. The latitude by observation was 66° 24′ 33″; the longitude, by chronometer, 84° 39′ 50″; and the variation of the magnetic needle 56° 19′ 52″ westerly.

A breeze springing up from the south-east just as we embarked, rather retarded us on our return down the bay, the entrance of which we reached however soon after sunset, and were about to land upon one of two islands that lie close of Point Farhill, when we heard a shouting, which appeared to proceed from some people on Georgina Island. Rowing in that direction we heard the same kind of shouting once or twice repeated, after which all remained silent. Landing just before dark upon the north-west end of Georgina Island, we with some difficulty made our way to a shingly beach, by removing and cutting away a part of the grounded ice with which it was lined. Immediately on landing I sent Messrs. Ross and M'Laren to look round from the hill above us; but as nothing could be seen or heard, we concluded that the Esquimaux must have been frightened at our approach, and purposely remained quiet.

Being apprehensive that the south-east wind would bring in the ice and
Thur. 20. obstruct our return to the ships round Cape Martineau, I gave orders for moving at break of day on the 20th; and had scarcely launched the boats when my apprehensions were confirmed, by observing a great deal of close ice a little below the island. The navigation of boats among ice is peculiarly perplexing, in consequence of being placed so near the level of the water that there is no possibility of seeing the best "leads." On this account it is often more advantageous to land and look round from a greater height, than blindly to persevere in picking out a slow and uncertain passage. With this intention, after in vain endeavouring for two hours to penetrate the ice, we put on shore at eight A.M., towards the eastern point of Georgina Island, where we shortly ascertained that we could make no progress without first retracing some of our steps to the north-west, in

which direction alone a narrow lane of water appeared to lead towards the main land. Pursuing this route, we were again obliged to go on shore at thirty minutes past one P.M. upon an island on that coast, having failed in our attempt to pass it on the outside. While dining, however, we perceived that a shoal and narrow passage within the island was still clear for about a mile further along shore. Having reached this *ne plus ultra*, we landed on a coast too shoal and rugged to allow the boats to be hauled up, and at the same time too much encumbered with ice to permit them to be moored afloat with safety. After unloading them therefore we allowed them to ground at high water, watching them as the tide came in. Many deer were seen, and several brace of ptarmigan killed in the course of the day. For eight and forty hours past we had, for the first time this season, experienced difficulty in procuring fresh water for our consumption, the small streams and pools near the sea, on which we had hitherto relied, being now frozen to the bottom. I allude however to the very smallest ones of six or seven inches in depth; for those which were a foot or two deep had still plenty of water under the ice: and the surface of many of the larger ponds was still unfrozen, except close round the margin. 1821. Sept.

The ice remained closely packed on the 21st, as far as we could see along shore, so that we were still detained in the same place. A party sent out to procure game, killed a deer and a hare: the former after being wounded took a deep lake, into which the people had to swim to get him out. Except these animals, which were here tolerably abundant, the game was scarce, though there was no want of feeding for them. The ground-willow was very plentiful, and so dry at this season that we easily procured enough for keeping up a good fire all day. Some snow which fell in the course of the preceding night, lightly powdering the land, had entirely disappeared before the evening, except in places having a northern aspect, where it now permanently remained for the winter. Frid. 21.

On the morning of the 22d the ice was not only as close as ever, but had forced its way much higher up towards Gore Bay. A party was therefore sent out to endeavour to procure game further inland; and another employed in gathering ground-willow, which was here abundant and in good condition for fuel. Two bears, a female and her cub, being probably attracted by the smell of our cooking, came towards the tents upon the ice, but on hearing our voices set off in the opposite direction. A good deal of snow fell in partial showers in the course of the day; it was nearly Sat. 22.

1821. Sept. of that fine kind which usually falls during the winter of these regions, but we had flake snow and even light rain some days after this. The snow however now remained undissolved upon the land in all situations. Our hunting party returned late in the evening without success, having merely seen a number of rein-deer, which the want of cover prevented their approaching. Seven days out of the nine for which we were victualled having now elapsed, a party was selected for walking over to the ships on the following day, should the ice still continue in its present state.

Sun. 23. The tents were struck and the boats launched at day-break on the 23d, when we made tolerable way along-shore for two hours, landing occasionally to distinguish the best road among the ice. At eight we put on shore to breakfast, and then again set forward, leaving Mr. Ross to walk along the rocks and by appointed signals to shew us the right "leads." After one P.M., however, when we had arrived within a mile of Cape M'Laren, we could make no further progress. The wind was at this time freshening up from the south-west which, while it served to pack the ice more and more closely in the bay, was rapidly clearing the coast on the opposite or eastern side of the land about Cape Martineau. We had therefore the mortification of observing from the hills that, could we have effected our passage for three or four miles further along the shore, we should at once have gained an open sea, and should probably have met with no further obstruction the whole way to the ships. Being thus unavoidably detained, our people went out with their guns and chased a fine deer into a creek at the back of our landing-place. The animal being here surrounded by the men who stationed themselves on the beach on each side, remained swimming more than an hour, when he became fatigued; and, after two attempts to land, was killed by persons concealed behind hummocks of ice. He proved a fine buck, and gave us about a hundred pounds of venison, which was taken on board for the use of the ships. A few brace of ptarmigan were also shot. The ground was here covered with snow two inches deep, which was more than at any other place at which we had landed. After another ineffectual attempt to push along the shore, by which the boats were much damaged in consequence of the young ice, we proposed, should the ice not alter its position, to endeavour to carry the boats and their geer over land on the following morning, rather than suffer this detention any longer.

The ice continuing in the same state, we commenced our work at break of
Mon. 24. day on the 24th, and in three journeys had carried all the lighter part of our

baggage over land by eleven o'clock. All hands then returned for the two boats, across the gunwales of which the masts and oars were lashed for lifting them, the ground not allowing us to drag them except for a short space here and there. By half-past one the first boat had been carried over and, by the unwearied exertions of the officers and men, we had the satisfaction of launching the second before four o'clock, the distance being a mile and a half, and chiefly over rocky and uneven ground. The weather felt cold and raw during the day; but we were afterwards surprised to learn that, while we were thus employed, the thermometer had been as low as 20° on board the ships. As soon as we had dined, the boats were re-loaded; and at five o'clock we left the shore. A quantity of ice was still aground upon the shoals and islets off Cape Martineau, through which however we fortunately found a passage before dark, when, having cleared every obstacle, we sailed in an open sea and with a fresh breeze to the northward. Keeping close along the shore to avoid missing the ships in the dark, our first musket was immediately answered by a blue-light; and being guided by the lights now shewn by the ships, we arrived on board at nine P.M., where we found that our late detention had excited some alarm for our safety. 1821. Sept.

During my absence from the ships, Lieutenant Hoppner had been despatched to ascertain whether the portion of land to the southward of Cape Edwards was insular or otherwise, with a view to save time in the examination of this part of the coast on my return. The land in question proved an island; but the passages within it being shoal, and narrowed by several inlets, I determined on going on the outside, which would occupy very little more time with much less risk to the ships. We therefore kept to windward as well as we were able, during a night of ten hours of more than usual darkness, in a channel only seven miles in width, and with squally and unsettled weather.

On the morning of the 25th the wind had gradually veered to the southward, bringing up the ice so far as to obstruct our passage round the island. After making several tacks near its margin, we found it so close and heavy as to render a passage through it wholly impracticable, even had we been favoured with a free wind. We therefore hauled over to the western land, and at four P.M., anchored in an open bay close to the shore, and in twenty-three fathoms, being the only shelter we could find. Nothing could have proved more opportune than our anchoring here, as it soon came on to snow so hard with an increase of wind, that the situation of the ships if under way must have been a very hazardous one. Tues. 25.

1821. Sept. Wed. 26. The wind coming rather to the eastward of south on the morning of the 26th, and the ice having advanced much nearer than before, our situatio was no longer a sheltered or secure one. At one P.M., therefore, we weighed and hauled over for the eastern land, where alone from the depth and nature of the soundings, we entertained any hope of finding security for the night. We reached this coast just as the day began to close in, and, being unacquainted with that part of it near which we fetched, I went in a boat soon after six P.M., to sound for an anchorage, the Fury being then in stays in six fathoms, and half a mile from several small rocky islets. Finding the water deepen gradually to seventeen fathoms, I soon, with the assistance of a boat from the Hecla, selected a birth for each ship, and leaving our little boat with a light, as a guide to us in anchoring, returned on board, sounding the whole way back. Standing in immediately to save what day-light yet remained, we struck soundings as I expected in seventeen and then in fourteen fathoms; the leadsman next called out five, and before the helm could be put down, or the man in the opposite chains obtain another cast, the ship was fast aground on a bed of sunken rocks. The sails were instantly thrown aback and as much weight as possible brought aft; and in the mean time Captain Lyon anchored on our weather quarter, for the purpose of heaving the Fury off by a hawser. It being fortunately dead low water at the time of our grounding, this was accomplished without difficulty or damage, and at eight o'clock the ship was backed off into deep water. After making a tack we anchored at half-past nine, by means of the Hecla's light, the weather being now so foggy as well as dark that without this guide we could not again have ventured near the shore. In the course of the night some streams of ice came in upon the ships, the heavier pieces fixing themselves on the rocks on which we had grounded.

Thur. 27. Perceiving at daylight on the 27th that the main ice had nearly reached us and was still advancing, Captain Lyon and myself went in the boats inshore to search for some security against it. The bottom proved so rocky and irregular that no proper place could be met with till we had rowed a couple of miles to the northward; and here we came to a snug though small cove that seemed to suit our purpose. In the mean time the ships had been directed to weigh, in doing which the Fury, being hampered by a light and baffling wind, cast the wrong way, and would once more have driven upon the rocks but for the timely assistance of the Hecla's boats, which Lieutenant Hoppner promptly despatched to tow her clear of the danger. Leaving

buoys at the proposed anchorage, we returned on board at noon; and finding the ice had advanced nearly a mile since the morning, I determined to lose no time in securing the ships from its approach, and accordingly bore up for the cove, in which, after passing over a shoal with five fathoms, and discovering another dry at low water, we anchored at two P.M. in thirteen fathoms, muddy bottom. An officer was immediately despatched along the hills to ascertain before dark the exact position of the ice, which he reported to be quite close to the southward, filling up the entrance of the inlet. The long-tailed ducks were here so numerous, that I believe we disturbed some thousands of them in the boats in the course of the morning. 1821. Sept.

On the 28th the ice still continued to occupy the whole mouth of the inlet; and on the following day, the wind increasing to a strong gale from the E.N.E., and there being no room to drive, we were obliged to drop our second anchors under foot. A good deal of snow fell and the land was now entirely covered with it, except a horizontal strip of black along the shores which, being washed by the sea and varying in breadth according to the time of tide, presented, except at high water, a striking contrast with the uniform whiteness of the rest of the land. Notwithstanding the reflected light occasioned by the snow, the nights were at this period so dark, that we could scarcely distinguish the shores of the cove at the distance of only a cable's length. Frid. 28. Sat. 29.

The gale still blew hard on the 30th, and indeed increased so much at night as to render it expedient to strike the lower yards, and send the top-gallant masts on deck. This continued with little intermission during the 1st of October, when some small rain fell, which immediately freezing made the decks and ropes as smooth and slippery as if coated with glass. The mercury in the barometer stood at 29.36 inches at noon, being its *minimum* during this gale; it then gradually rose, though the wind continued with equal or even increased violence for more than six and thirty hours afterwards. The thermometer had for several days past permanently fallen below the freezing point, and sometimes as low as 20° at night; which change, together with the altered appearance of the land, and the rapid formation of young ice near the shores, gave pretty evident notice of the approach of winter. The commencement of this dreary season in these regions, may indeed, be fairly dated from the time when the earth no longer receives and radiates heat enough to melt the snow which falls upon it. When the land is once covered with this substance, so little calculated to Sund. 30. October. Mon. 1.

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, during the Month of *September*, 1821.

Day	Place.	Temperature of Air in Shade.			Mean Temp. of Sea Water.	Barometer.			Prevailing Winds.		Prevailing Weather.
		Maximum.	Minimum.	Mean.		Maximum.	Minimum.	Mean.	Direction.	Velocity.	
		°	°	°	°	inches	inches	inches			
1	Off Sturges Bourne Islands.	+42	+37	+39.25	32.25	29.80	29.56	29.718	a.m. West p.m. SbW	light	fine
2		39	30	35.58	31.46	29.93	29.50	29.703	NW	fresh	fine
3		37	28	32.92	31.33	30.01	29.93	29.980	WbN	fresh	fine
4	Off Southampton Island.	40	31	33.87	31.33	30.00	29.80	29.930	a.m. WbS p.m. SSE	light	cloudy
5		34	31	32.67	31.58	29.73	29.56	29.652	EbS	fresh	cloudy
6		37	33	35.75	33.54	29.53	29.40	29.448	SSE	light & calms	hazy
7		37	32	34.46	33.83	29.44	29.42	29.427	Southerly	ditto	ditto
8		37	33	35.00	33.67	29.64	29.45	29.525	SE	light and variable	hazy and rain
9		36	33	34.54	34.33	30.23	29.72	30.073	NW	light	fine
10		37	27	32.46	33.17	30.25	29.99	30.160	SE	modt.	fine
11		36	30	33.67	33.42	29.92	29.78	29.818	ESE	modt.	squalls and cloudy
12		36	33	35.25	33.62	29.73	29.57	29.623	ESE	light	hazy and rain
13		40	33	35.92	33.25	29.64	29.57	29.588	Calm		hazy
14		37	32	34.58	30.67	29.93	29.70	29.817	NWbW	light	cloudy
15		36½	34	34.96	32.67	30.03	29.97	30.005	NWbW	light	cloudy
16	At	35	30	32.46	33.54	30.12	30.03	30.075	NbW	modt.	cloudy
17	anchor	28	23½	26.54	30.92	30.30	30.13	30.198	NbW	fresh	cloudy
18	in	31	24	28.42	32.42	30.41	30.30	30.375	WNW	modt.	cloudy
19	Lyon	33	25	29.04	33.00	30.40	30.37	30.378	NE	light	fine
20	Inlet.	31	24	27.17	32.42	30.37	30.20	30.330	South	modt.	cloudy
21		28	24	26.08	31.04	30.36	30.13	30.208	a.m. SbW p.m. NE	light & calms	cloudy
22		32	27	29.12	32.00	30.08	30.02	30.043	NWbN	modt.	cloudy and snow
23		29	21½	26.96	32.00	30.15	30.11	30.128	NbW	modt.	cloudy and snow
24		29	20	24.20	29.75	30.07	29.58	29.835	a.m. NbW p.m. SWbS	modt.	cloudy and squalls
25		31	28	29.42	31.04	29.56	29.47	29.507	SSW	modt.	cloudy and snow
26		32	27	29.37	31.67	29.70	29.50	29.568	South	modt.	cloudy and snow
27		29	25	27.12	30.83	29.82	29.70	29.760	SbW	light	fine
28		27	20	23.86	29.64	30.03	29.86	29.966	NEbE	modt.	cloudy
29		27	21	24.17	28.92	30.00	29.70	29.862	EbN	fresh	snow in squalls
30		28½	26	26.92	30.33	29.63	29.48	29.588	East	strong	snow in squalls
		42	20	31.06	31.99	30.41	29.40	29.876			

favour the absorption of heat, the frigorific process seems to be carried on with increased vigour, defining very clearly the change from summer to winter, with little or no intermediate interval to which the name of autumn can be distinctly assigned. 1821. October.

The gale continuing the same both in direction and force on the 2d, I ordered the topmasts to be struck in the evening, being apprehensive of starting the anchors during the night in some of the violent squalls that blew off the land; and it was not till two P.M. on the 3d that the gale began to moderate. The evening was therefore employed in fidding the topmasts and top-gallant-masts, and in other preparations for moving; and on the following morning, having cast by hawsers fastened to the rocks, we left the cove at eight A.M. A boat being kept ahead to sound, discovered and enabled us to avoid another rocky shoal with twelve feet water upon it, and only a yard or two in breadth, lying a little to the northward of our former track into the cove. Tues. 2. Wed. 3. Thur. 4.

The anchorage we had now left, and which from the security it had afforded us obtained the name of Safety Cove, lies in lat. 66° 31′ 59″, and in longitude, by chronometers, 83° 48′ 54″, being in the north-eastern corner of a considerable bend in the coast, which seems to be full of dangerous rocks and shoals, mostly covered by the tide, and is therefore distinguished on the chart as the Bay of Shoals. There were considerable flocks of the long-tailed duck feeding on the innumerable shrimps (*cancer nugax, of Phipps's Voy.*) with which the sea swarmed in all this neighbourhood. The ground being almost wholly covered with snow, our examination of the natural productions was necessarily much limited: the rocks were however principally of gneiss, and a fine specimen of asbestous actynolite was brought on board from a large mass of that substance.

As soon as we had cleared the shoals, all sail was made along-shore to the south-east. We found the ice closely packed against the high western land, and as we advanced it gradually led us in towards the eastern shore till, at half-past eleven A.M., when we had sailed about ten miles from the cove, no passage could be seen from the crow's nest between the land and the ice. Soon after noon, therefore, Captain Lyon and myself, accompanied by a second boat from each ship, went in-shore to look for a place in which we might remain till the ice had drifted farther down the inlet. We soon succeeded in discovering a roadstead secure enough from wind and sea, but open to the ice in the event of its taking a turn that way. As however it was necessary

1821. October. either to run this risk or to return a part of the distance sailed in the morning, we anchored at three P.M. in seven fathoms, on a muddy bottom, being sheltered by a point of land to the southward, and by an island to the north.

Frid. 5. The ice at the time of our anchoring was a mile and a half distant, and seemed to be fast driving out of the inlet. About midnight however the whole body was observed to be coming in upon the ships. The cables being immediately veered to prevent the anchors starting, the holding-ground proved so good that they did not move. The Hecla rode a very great strain, the floe-pieces being heavy and too large to find their way past us. Fortunately however the pressure of the ice relaxed soon after, and it then moved out again; so that not the smallest damage was sustained by either ship. The wind freshening up from the northward, the ice again acquired good way out of the inlet in the course of the day; and I was glad to find, in the afternoon, that the prospect from the hills was somewhat more promising than before. We endeavoured to get fresh water on shore here, but found all the ponds, which were indeed shallow, hard frozen to the bottom. The ground was mostly covered with snow; but in some places on the rocks it had been in part dissolved, and then frozen again into a cake of smooth transparent ice, which made the walking very slippery. On every smaller stone also, and round the decayed stalk of each plant that protruded through the snow, a knob of the same substance was formed, and these reflecting the rays of an unclouded sun had a very brilliant effect. This appearance seemed to us worth noticing, as it shewed the difference between this climate and that of a more northern latitude where, after the snow has once fallen, the sun's rays have not power to produce the slightest appearance of glazing on the surface till late in the spring. A flock of five ptarmigans and the track of a bear were seen. Captain Lyon and myself also distinctly saw a hawk, whose plumage appeared quite white, being the only instance in which such a bird was met with. The thermometer being at 15° at six in the morning, and rising only to 17° at two P.M., much young ice was formed in-shore. Every attention was paid to the clothing of the ships' companies at this period when, from the suddenness of the change of temperature, and the necessity of frequent exposure, there is perhaps as much to apprehend in this respect as at almost any other time of the year.

Sat. 6. The ships were under way at a quarter past six on the morning of the 6th, the wind being fresh from the N.b.W. and the thermometer as low as 11°. The ships' bends were now so coated with ice about the water-line, that we

had to beat and cut it off to prevent its impeding their way. We then ran along without obstruction till we had passed Cape Edwards when, in hauling up for the south point of the island we were desirous of rounding, we found the sea covered with "pancake ice," which however being thin and easily moved among its several component parts, does not offer any considerable impediment. As we advanced along the south side of the island, the young ice began to occur more in continuous sheets, and as these had in many parts been broken, and overlaid each other in the manner already described *, the obstruction soon became greater. Towards noon we had approached the south-east point of the island, where we found the packed ice stretching close in with the shore. As the management of the ships could no longer be depended on, hampered as they were by the young ice, it was needless at present to attempt passing the point: we therefore hauled up towards a bay which here very opportunely presented itself, and in which I determined to await some change if anchorage could be met with. As soon as we had opened the bay, and a passage could be found for the boats through the young ice, I went in to sound it, accompanied by Captain Lyon, and finding the depth regular and the ground good, anchored the ships at three P.M. in six to seven fathoms. The water was here so clear that the man in the chains was somewhat alarmed by seeing the bottom when in nine fathoms and a half, and at our anchorage a shilling might have been easily seen upon the ground. The soundings on the south side of this island we found remarkably regular, presenting a striking contrast with the coast we had lately left. We had above thirty fathoms at two miles' distance, and the water shoaled very gradually as we approached the western point of the bay, where we had ten fathoms within two ships' lengths of the grounded ice, which here as well as all round the shores of the bay occurred in unusually heavy masses. 1821. October.

Mr. Ross being sent on shore to examine the state of the ice on the other side of the point, reported on his return that there was a narrow channel between the floes and the land, but no anchoring-place in case of our being stopped. There being now only an hour's daylight remaining, the young ice fast increasing, and a strong tide running in the offing, I was obliged to relinquish the idea of moving till the morning.

At daylight on the 7th I despatched Mr. Crozier to the point, beyond Sun. 7.

* Narrative of the Voyage of 1819-20, p. 90.

1821. October. which, at the distance of one mile, he found the whole body of ice close in with the land, appearing very thick and heavy as far as could be seen to the north-eastward. After divine service I sent Lieutenant Reid for the same purpose, when I was glad to find that our passage was now only obstructed by a body of ice a mile and a half in breadth, beyond which a great deal of clear water appeared; and as this ice was in rapid motion to the southward, there seemed every chance of our being enabled to push on in the morning. The bay ice round the ships was just thick enough to bear a man's weight, but that in the offing was much thinner, and in many places the surface of the sea was still clear of it.

The thermometer gradually fell to 10° after midnight, and to *zero* at six
Mon. 8. A.M. on the 8th. An hour before day-break Lieutenant Reid again left the ship, to give us information of the state of the ice round the point, without which it would have been imprudent to quit our present anchorage. In the mean time the sails were set and the cables hove short in readiness for moving, the instant he should make the appointed signal from the hill. To our great disappointment however no signal appeared; and Lieutenant Reid acquainted me on his return, that the ice in one solid and unbroken "pack," to which he could see no end, closed completely in with the beach, at a shoal and open bay on the east side of the island. The ice now beginning also to approach the ships, I directed the anchors to be weighed and lines to be run out towards the eastern side of the bay, which appeared to offer rather the best security against its approach. In this the boats at length succeeded, and the ships were accordingly removed, while Captain Lyon and myself landed and walked to the northward, in order to obtain a more distinct and extensive view of the position of the ice in that quarter. Having reached a hill about three miles to the northward of the ships, we could perceive that there was scarcely a pool of clear water among the ice, which filled the space between us and the main land. The only part of the sea in sight unoccupied by "old" ice was along the south shore of the island, and this was almost entirely covered with bay-floes, through which a ship could not possibly have made her way.

The formation of young ice upon the surface of the water is the circumstance which most decidedly begins to put a stop to the navigation of these seas, and warns the seaman that his season of active operations is nearly at an end. It is indeed scarcely possible to conceive the degree of hinderance occasioned by this impediment, trifling as it always appears before it is

encountered. When the sheet has acquired a thickness of about half an inch, and is of considerable extent, a ship is liable to be stopped by it unless favoured by a strong and free wind; and even when still retaining her way through the water, at the rate of a mile an hour, her course is not always under the control of the helmsman, though assisted by the nicest attention to the action of the sails, but depends on some accidental increase or decrease in the thickness of the sheet of ice, with which one bow or the other comes in contact. Nor is it possible in this situation for the boats to render their usual assistance, by running out lines or otherwise; for having once entered the young ice, they can only be propelled slowly through it by digging the oars and boat-hooks into it, at the same time breaking it across the bows, and by rolling the boat from side to side. After continuing this laborious work for some time with little good effect, and considerable damage to the planks and oars, a boat is often obliged to return the same way that she came, backing out in the canal thus formed to no purpose. A ship in this helpless state, her sails in vain expanded to a favourable breeze, her ordinary resources failing, and suddenly arrested in her course upon the element through which she has been accustomed to move without restraint, has often reminded me of Gulliver tied down by the feeble hands of Lilliputians; nor are the struggles she makes to effect a release, and the apparent insignificance of the means by which her efforts are opposed, the least just or the least vexatious part of the resemblance. 1821. October.

When to the ordinary difficulties which the navigation of the Polar Seas presents were superadded the disadvantages of a temperature at or near *zero*, its necessary concomitant the young ice, and twelve hours of darkness daily, it was impossible any longer to entertain a doubt of the expediency of immediately placing the ships in the best security that could be found for them during the winter, rather than run the risk of being permanently detached from the land, by an endeavour to regain the continent. Captain Lyon being of the same opinion with myself, we proceeded on our return to the beach to sound the north-eastern part of the bay, by making holes in the ice which was now strong enough to bear us. We were in hopes of receiving effectual shelter from the numerous grounded masses, but could only find births within one of them in five to six fathoms water. We now for the first time *walked* on board the ships; and before night had them moved into their places, by sawing a canal for two or three hundred yards through the ice. The average thickness of the new floe was already

1821. October. three inches and a quarter; but being in some places much less, several officers and men fell in and, from the difficulty of getting a firm place to rest on, narrowly escaped a more serious inconvenience than a thorough wetting. The whole sheet of ice, even in those parts which easily bore a man's weight, had a waving motion under the feet, like that of leather or any other tough flexible substance set afloat; a property which is I believe peculiar to salt-water ice.

In reviewing the events of this our first season of navigation, and considering what progress we had made towards the attainment of our main object, it was impossible, however trifling that progress might appear upon the chart, not to experience considerable satisfaction. Small as our actual advance had been towards Behring's Strait, the extent of coast newly discovered and minutely explored in pursuit of our object, in the course of the last eight weeks, amounted to more than two hundred leagues, nearly half of which belonged to the continent of North America. This service, notwithstanding our constant exposure to the risks which intricate, shoal, and unknown channels, a sea loaded with ice, and a rapid tide concurred in presenting, had providentially been effected without injury to the ships, or suffering to the officers and men; and we had now once more met with tolerable security for the ensuing winter, when obliged to relinquish further operations for the season. Above all, however, I derived the most sincere satisfaction from a conviction of having left no part of the coast from Repulse Bay eastward in a state of doubt as to its connexion with the continent. And as the mainland now in sight from the hills extended no farther to the eastward than about a N.N.E. bearing, we ventured to indulge a sanguine hope of our being very near the north-eastern boundary of America, and that the early part of the next season would find us employing our best efforts in pushing along its northern shores.

CHAPTER VI.

PRECAUTIONS FOR THE SECURITY OF THE SHIPS AND THEIR STORES—AND FOR THE HEALTH AND COMFORT OF THE CREWS—ESTABLISHMENT OF THEATRICAL ENTERTAINMENTS AND SCHOOLS—ERECTION OF AN OBSERVATORY AND HOUSE ON SHORE—STATE OF HEALTH AT THIS PERIOD—PARTIAL DISRUPTION OF THE ICE IN THE BAY—ANCHORS AND CABLES TAKEN TO THE SHORE—GRADUAL INCREASE OF COLD, APPEARANCE OF THE AURORA BOREALIS ON SEVERAL OCCASIONS, AND VARIOUS OTHER METEOROLOGICAL PHENOMENA TO THE CLOSE OF THE YEAR 1821.

1821. October.

Our operations at sea being now at an end for the season, my chief attention was directed to the security of the ships, and to the various internal arrangements which experience suggested as necessary for the preservation of cleanliness, health, and comfort during the winter, as well as for the economical expenditure of the provisions, fuel, and other stores.

The situation which circumstances obliged us to put up with for our winter-quarters, was by no means as secure as could have been wished. The bay, though as fine a roadstead as could have been desired if situated in a temperate climate, was still only a roadstead; and, being entirely open to the south, was exposed to a pressure from ice in that direction, unless the solid floe now about to be formed round the ships should shortly become sufficient to guard them from external injury. There was some reason, however, to doubt the efficacy of this protection; for, as the spring-tides approached, the numerous grounded masses around the shores of the bay began to evince symptoms of instability, one or two having fallen over and others turned round; so that these masses might be looked upon rather as dangerous neighbours, likely to create a premature disruption of the ice, than as the means of security which, in seas not subject to any considerable rise of tide, they had so often proved to us on former occasions. To these circumstances was added our uncertainty whether very high tides, during the winter, might not crack the ice, thereby exposing the ships to the double danger of being

1821. October. "nipped" about their water-line, and of being drifted out of the bay by northerly gales. That which was, however, perhaps the most to be apprehended was the possibility of the ships being forced into shoal water, without detaching themselves from the mass of ice cemented to their bends, the weight of which, hanging upon the sides of a ship left aground by the tide, could not but produce very serious injury.

Such were the principal contingencies to which we were liable, and which, though we happily escaped them all, rendered our present situation an experiment I would willingly have dispensed with trying. As a measure of precaution we began by removing the ships into rather deeper water, by cutting the ice astern, so that they now lay in full six fathoms at low water. Several hawsers were also secured to the grounded masses ahead of the ships, and the chain-cables kept bent till some idea could be formed of the dependence to be placed on the ice, under the various circumstances of wind and tide that might occur. The disposition of the masts, yards, and sails was next determined on. The fore and main-top masts were kept fidded, the top-gallant-masts (except the Fury's main one, which was kept up for the electrometer-chain,) were struck, the lower yards got down to the housing, the topsail-yards, gaff, jib-boom, and spritsail-yard remaining in their proper places. The topsails and courses were kept bent to the yards, the sheets being unrove, and the clues tucked in. The rest of the bending-sails were stowed on deck to prevent their thawing during the winter; and the spare spars were lashed over the ships' sides, to leave a clear space for taking exercise in bad weather.

In these arrangements I had kept in view a determination to send nothing out of the ships during the winter, as well to avoid the possibility of loss by robbery should any natives visit us, as to prevent a great deal of unnecessary wear and tear, incurred, on a former occasion, in the removal of stores to and from the shore. With the same view, it was my first intention to keep all the boats hanging at the davits, but the carpenter of the Fury having represented their liability to injury by frost, if not protected by a covering of snow, I then proposed placing them on the ice near the ships. This plan however I was also induced subsequently to relinquish, from our ignorance of the effect likely to be produced upon the ice by the winter's tides, and we therefore hauled them on shore and, placing their gear in them, covered them with snow.

About the time of our arrival in the bay, when the thermometer had fallen nearly to *zero*, the condensation of vapour upon the beams of the lower deck,

and in the cabins near the hatchways, commenced just as it had done at a similar temperature before. To remedy this evil, no time was lost in lighting a fire in the warming-stove upon the orlop-deck, every thing being previously moved from its neighbourhood that was likely to create danger. The iron tanks in the main hatchway were laid bare on the top, and the interstices between them filled with sand, to form a secure platform in front of the fire; and the sail-room bulk-heads and stancheons covered with sheet copper. Four steady men, of whom one was a petty officer, were appointed to attend the fire in regular watches, being made responsible for the due expenditure of the fuel, and for the safety of every thing about the stove. They had likewise particular charge of the fire-engine, buckets, and two tanks of water, all of which were kept in the hatchway in constant readiness in case of accidents. In addition to these precautions, some general regulations were established for stationing the officers and men in the event of fire; and a hole was directed to be kept open in the ice alongside each ship, to ensure at all times a sufficient supply of water. 1821. October.

In twelve hours after lighting the stove not a drop of moisture remained. The stream of air in the vessel on the lower deck was rapid, constant, and above 120° of Fahrenheit; that in the cabins near the apparatus about 100°, and at the end of the flue in my cabin, at the distance of forty-six feet from the air-vessel, it rose to 65° on the first evening, and on the two following days to 70° and 72°. The mean temperature of the atmosphere at this time was a few degrees above *zero*. To prevent the flues which were of sheet iron from parting too readily with their heat, the most exposed parts, especially about the opening of the hatchway-door, were coated with fearnought, a kind of woollen stuff which, from its slowly-conducting property, was considered well calculated to retain the warmth, and thus to convey some portion of it to the after-cabins*. The quantity of coals for which this stove was purposely constructed was five pecks, or a bushel and a quarter, per day;

* This apparatus completely answered the purpose of keeping up a uniform and comfortable temperature on the lower-deck throughout the winter, as will appear by the column inserted for that purpose in the Meteorological Abstracts. The mean temperature shewn in this column, viewed in connexion with that next to it, containing the temperature of the atmosphere, is a good proof of the efficacy of this mode of warming the deck.

For the warming of the cabins abaft the main-mast, it was by no means so efficacious. This defect was in some measure anticipated, from the impracticability of placing the stove *lower* in the ship, so as to increase the rapidity of the current of air.

1821. October. but by way of experiment we now commenced with a proportion of only four pecks, with which a constant fire was kept up throughout the twenty-four hours; and this quantity was subsequently found sufficient during the whole of this winter.

The provisions supplied to the Expedition were calculated to last, at full allowance, for a period of three years from the preceding 1st of July, the day the transport left us; but as, in case of our passing three winters in the ice, and at length effecting our object, it would be absolutely necessary to extend our resources to the close of the year 1824, such arrangements were now commenced as were requisite for that purpose. Such indeed was the unbounded liberality with which all our supplies had been furnished, particularly in the important article of Donkin and Gamble's preserved meats, which contain great nutriment in a small bulk, that by a judicious scale previously made out by Mr. Hooper, it was only necessary to adopt, during the inactive season of each winter, a reduction of one-third of the usual proportion of bread and spirits, and of one-sixth of the ordinary allowance of sugar. This reduction could hardly be considered a privation, for the bread was still sufficient, and the spirits much more than enough, for men who had no very laborious duties to perform.

The regulations for the maintenance of due cleanliness among the ships' companies were principally the same as those established on the preceding voyage. The superior warmth, however, which we could now command between decks, rendered the drying of the clothes and the airing of the bedding a matter of comparative facility; while the comfort the men experienced from sleeping in hammocks, instead of standing bed-places, now became so apparent, that the prejudice at first existing among them on this score soon wore off. This prejudice had indeed principally arisen from the daily removal and replacing of the hammocks, a trouble which, perhaps, occupied each man ten minutes in the twenty-four hours, but which was not necessary with the bed-places. This very circumstance, however, is perhaps what constitutes the chief superiority of one plan over the other; the ventilation of the inhabited parts of the ship being thus materially promoted, and the bedding removed during the whole day from the possibility of imbibing moisture from the victuals, breath, and other sources.

While care was thus taken to adopt all the physical means within our reach, for the maintenance of health and comfort among the crews, recourse was also had to some of a moral nature, which experience has shewn to be useful

auxiliaries in the promotion of these desirable objects. It would perhaps, indeed, be difficult to imagine a situation in which cheerfulness is more to be desired, or less likely to be maintained, than among a set of persons (and those persons seamen too,) secluded for an uncertain and indefinite period from the rest of the world; having little or no employment but that which is in a manner created to prevent idleness, and subject to a degree of tedious monotony ill according with their usual habits. It was not, however, simply as a general principle, applicable in a greater or less degree to all situations and societies, that the preservation of cheerfulness and good-humour was in our case particularly desirable, but as immediately connected with the prevention of that disease to which our crews were most liable, and which indeed, in all human probability, we had alone any cause to dread. The astonishing effects produced by the passions of the mind, in inducing or removing scorbutic symptoms, are too well known to need confirmation, or to admit doubt; those calculated to excite hope, and to impart a sensation of pleasure to the mind, having been invariably found to aid in a surprising manner the cure of this extraordinary disease, and those of an opposite nature to aggravate its fatal malignity. As a source therefore of rational amusement to the men, soon after our arrival, I proposed to Captain Lyon and the officers of both ships once more to set on foot a series of theatrical entertainments, from which so much benefit in this way had, on a former occasion, been derived. This proposal was immediately and unanimously acquiesced in; Captain Lyon obligingly undertook to be our manager and, some preparation having been made for this purpose previous to leaving England, every thing was soon arranged for performing a play on board the Fury once a fortnight. In this, as in more important matters, our former experience gave many useful hints. Our theatre was now laid out on a larger and more commodious scale, its decorations much improved and, what was no less essential both to actors and audience, a more efficient plan adopted for warming it, by which we succeeded in keeping the temperature several degrees above *zero* on each night of performance throughout the winter *.

1821. October.

To furnish rational and useful occupation to the men, on the other evenings,

* While on the subject of our plays, I cannot omit to mention that just before we left England, a large and handsome phantasmagoria or magic lantern had been presented to me for the use of the Expedition, by a lady who persisted in keeping her name a secret to those whom she was thus serving. This apparatus, which was excellent of its kind, was frequently

1821. October. a school was also established under the voluntary superintendence of Mr. Halse, for the instruction of such of the men as were willing to take advantage of this opportunity of learning to read and write, or of improving in those acquirements. The same plan was adopted on board the Hecla, Benjamin White, one of the seamen who had been educated at Christ Church school, volunteering to officiate as school-master. Tables were set up for the purpose in the midship part of the lower deck; some of the men already thus qualified undertook the task of assisting in the instruction of their shipmates, and thus were about twenty individuals belonging to each ship occupied every evening from six till eight o'clock. I made a point of visiting the school occasionally during the winter, by way of encouraging the men in this praise-worthy occupation, and I can safely say that I have seldom experienced feelings of higher gratification than in this rare and interesting sight.

While these internal arrangements were making, the interests of science were not neglected. A day or two after our arrival Mr. Fisher and myself selected a spot for the portable observatory, which was immediately erected for the purpose of making magnetic observations; and as soon as the carpenters could be spared from the necessary duties of the ships, a house was built for the reception of the instruments requisite in conducting the other observations and experiments. A portion of the house was, by Mr. Fisher's suggestion, parted off as an observatory, having slits to open in the roof and sides in the direction of the meridian. This method was considered likely to be especially useful in a series of observations for the atmospheric refraction, which Mr. Fisher proposed making at low temperatures, and which on account of the difficulties attending the use of the repeating-circle, and of most other instruments in severely cold weather, it was scarcely possible to do, except in the neighbourhood of a warm apartment. The house was built of our spare boat-plank, the sides, which were double and filled with sand between, being fixed to capstan bars set upright, and sunk two feet into the ground, which we found quite loose and dry for about thirty inches below the surface; beyond that depth it was frozen almost as hard as a rock, requiring extreme labour in digging into it. The larger apartment, in which a

resorted to during this and the succeeding winter; and I am happy to avail myself of this mode, the only one in my power, of thanking our benefactress and assuring her that her present afforded a fund of amusement fully answering her kind intentions.

stove was placed, could at all times be kept at a high temperature, but the observatory-part when the slits were open derived of course but little advantage in this way; and Mr. Fisher in vain endeavoured to keep his clock going in it, when it would have been most convenient as well as most interesting to have done so. The house was also of service for receiving the chemical apparatus, and materials furnished for certain experiments recommended by a committee of the Royal Society, as well as for conducting those experiments whenever circumstances would permit during the winter-months. The electrometer-chain was hoisted up to the Fury's masthead, the point of platina being one hundred and twelve feet above the level of the sea, and the lower end secured to the ice several yards from the ship's side. As the usual method of hoisting it up at sea, attached to a line of the same length by means of a number of short glass rods, appeared an uncertain mode of insulating the chain, a more effectual plan suggested by Mr. Fisher was afterwards adopted. A long plank being firmly secured up and down the royal-mast, several glass rods three or four feet apart were fixed to it horizontally: the links being attached to the outer ends of these as a support, the line was altogether removed; so that when the lower end of the chain was fastened also by glass rods, the whole was kept free from contact and thus effectually insulated. A tide-pole marked to feet and inches was dropped through the fire-hole, and firmly moored to the bottom by a heavy weight; and an accurate account of the time and height of the tides registered in a table in the log-book throughout the winter. 1821. October.

It was a matter of sincere satisfaction to observe the excellent health enjoyed by our people at this time, as well as the various comforts which were likely to ensure its continuance. The only man on the Fury's sick-list was John Reid, carpenters' mate, who, in consequence of a severe cold and cough occasioned by exposing himself when overheated by work, had been for several weeks confined with an inflammatory complaint, which threatened to be of a very serious and alarming nature. He was just at this time in some respects better, having nearly lost the cough, but was still in a delicate and precarious state. Every possible attention was paid to the dryness, warmth, and ventilation of the sick-bay, in which a fire was kept alight during a part of the day, and subsequently, as the cold increased, during the whole of the twenty-four hours, preserving a high and equable temperature of about 60°. This and other arrangements for the convenience of the sick rendered it little less comfortable than the ward of a regular hospital.

1821. October.

Soon after our arrival here, Captain Lyon expressed a wish that his officers and men, with himself, should attend divine service on board the Fury, during the continuance of the ships in winter-quarters. This arrangement, which Mr. Fisher concurred with me in thinking in every respect desirable, was accordingly made, and we formed one congregation for the rest of the winter. Our lower-deck afforded abundance of accommodation in this respect; some psalm tunes, which had been purposely set upon an organ, were played at the proper intervals of the service, and our little church formed a pleasing and interesting scene to such as are disposed to be interested by scenes of this nature.

Our people were sent out to walk for exercise whenever the weather was favourable, and the duties of the ships did not afford them sufficient employment; care being taken to keep them together, under an officer, and to furnish them with proper arms. Finger-posts were also erected, as before, in various parts of the island near the bay, for the purpose of directing persons to the ships if surprised by snow-drifts.

The weather continued wintery and inclement from the time of our arrival in the bay; but the rapid equinoctial spring-tides coming on soon after, prevented the permanent freezing of the sea in the offing. The sheet of ice which had formed in the bay was also in part detached by one of the boats having been hauled over it, her keel leaving a score which, like those on glass made by the scratch of a diamond, caused it to separate just in that place: a fresh sheet was however formed in the course of eight and forty hours, which appeared sufficient to secure us from external pressure. The flood-tide was observed to come from the north-east and to set, at spring-tides, at the rate of two miles and a half an hour. The phenomenon called frost smoke, or the "barber," being the vapour arising from the sea, rendered visible by condensation, made its appearance when the thermometer sunk to 2° or 3° below *zero*, but at that temperature of the atmosphere it was not very dense.

Before the ships were permanently frozen in, several black whales came up to blow in the small pools left open by our cutting the ice. As a supply of oil would have been particularly acceptable just at this period, every endeavour was made to strike one of them, but without success; the young ice preventing the boats from approaching them notwithstanding the ardour of our Greenland sailors in this pursuit.

I have before mentioned the myriads of small shrimps, *(cancer nugax,)*

which for some weeks past had been observed near the surface of the sea. These insects were found to be still as numerous as ever in any hole we made in the ice; and such was the extreme avidity with which they immediately seized upon any meat put overboard, to thaw or soak for the sake of freshness, that Captain Lyon to-day sent me a goose to look at, belonging to the officers of the Hecla, that had been thus deposited within their reach only eight and forty hours, and from which they had eaten every ounce of meat, leaving only a skeleton most delicately cleaned. Our men had before remarked that their meat suffered unusual loss of substance by soaking, but did not know to what cause to attribute the deficiency. We took advantage however of the hunger of these depredators to procure complete skeletons of small animals, for preservation as anatomical specimens, enclosing them in a net or bag with holes, to which the shrimps could have access, but which prevented the loss of any of the limbs, should the cartilage of the joints be eaten. For want of this latter precaution some specimens were at first rendered imperfect. 1821. October.

A thermometer placed in the sun at noon to-day stood at 32°, that in the shade being at 5°. In the course of the afternoon I witnessed, for the third time in my life, that peculiar and delicate colouring of the clouds which I have endeavoured to describe in my narrative of the last voyage, on the 16th and 29th of April, 1820. The red tint was, as on both those occasions, nearest to the sun, and the clouds on which the colours were exhibited were passing within four or five degrees of that object.

We were occupied about this time in getting to hand in the holds the supply of provisions that would be required for the next six months, in order to prevent the necessity of opening the hatches oftener than once a week; an arrangement which was found extremely conducive to the cleanliness of the lower-deck, as well as to that of the men personally. While doing this, the opportunity was taken to place all the lemon-juice, pickles, cranberries, and any other articles liable to damage by frost, as nearly amidships as possible. A single cask of lemon-juice was however left in contact with the ship's side as an experiment, of which some account will be given in another place. Mr. Hooper having exposed a portion of this fluid to a low temperature on deck, observed it to congeal, when a thermometer immersed in it stood at 25°, into a thick but soft consistence not sufficiently solid to break a glass bottle. Wed. 17

1821. October. Several white foxes had about this period been caught in traps set on shore, and were kept on board by the officers, with the hope of taming them. Some account of these beautiful little animals is given in another part of this winter's narrative. The thermometer rose as high as 21° on the

Thur. 18. morning of the 18th, and thick snow continued falling incessantly for many hours; this remained in a very soft state upon the ice, and clung quite fast to the rigging, in both these respects differing essentially from what we had experienced during any part of our stay at Melville Island. A pair of snow-boots were now issued *gratis* to each individual in the Expedition, being part of a stock of extra warm clothing liberally furnished by Government, to be supplied to the officers and men, at my discretion, as occasion should require. These boots were made of strong drab cloth with thick soles of cork, the slowly conducting property of which substance, together with their large size, allowing a free circulation to the blood, afforded the utmost comfort that could be desired. Boots or shoes of *leather* never retain the warmth long, under circumstances of very severe exposure.

Frid. 19. On the 19th we began to put on the housing-cloths for covering in the upper decks, and thus ensuring a comfortable and sheltered place for walking in any weather during the winter. These cloths were composed of the same stout and serviceable material as before, but were now painted of a light colour instead of black, under the idea, suggested by some scientific gentlemen in London, of preventing in a certain degree the radiation of heat. As it was a great convenience, as well as saving of candles, to admit daylight by the cabin and gun-room skylights, during the three hours which, even at the darkest period, we should have in this latitude, the housing was not carried the whole way aft, but finished by a screen a little abaft the mainmast, which with a door at the gangway was found quite sufficient for every useful purpose: a door with a pulley was also fixed at the head and foot of each of the ladders communicating with the upper deck. Instead of the planks used on the former voyage for resting the housing-cloths upon, and which took up a great deal of room in the stowage, we now substituted ropes, set up to the midship spars, and to others over the ships' sides, after the manner of what seamen call "jack-stays," which answered quite as well if not better than the other plan.

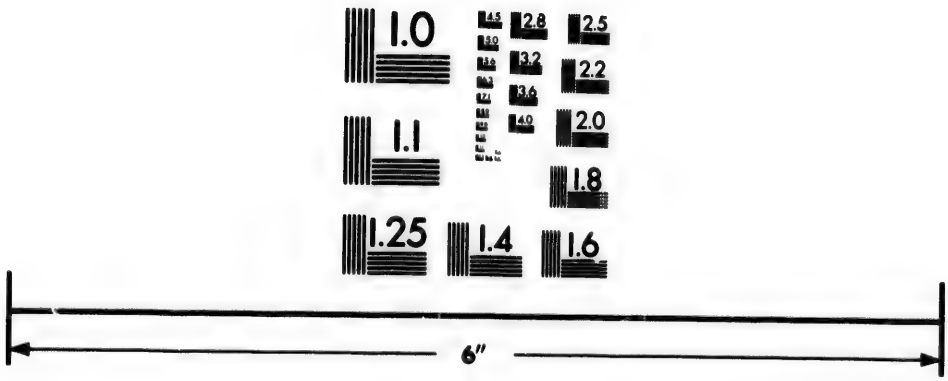
Sat. 20. On the 20th, the thermometer again fell to *zero* at ten A.M., and by midnight as low as —10°, the temperature gradually decreasing as the wind backed to the W.N.W. during the two last days. A spirit thermometer was

now substituted for the mercurial one, for registering the temperature of the atmosphere; and that of the sea, which always remained nearly the same in the winter, was only taken occasionally in future. 1821. October.

On the 21st there was a considerable space of open water in the offing to the southward and eastward, from which a cloud of frost-smoke constantly issued, driving like a fog with the wind. The ships' companies amused themselves, in the course of their afternoon walk, with sliding upon the ice in a pond, from which we were still able to procure water a couple of feet below the surface, though the pond was not a deep one: this advantage we enjoyed as late as the 26th of November, after which we had recourse entirely to snow melted by artificial means. The thermometer falling to $-13°$ in the course of the night, the ships' timbers began to crack a little, in consequence of the freezing of the juice of the wood. I expected this to have occurred in a greater degree with the Fury than with the Hecla, the latter having been already seasoned to a cold climate; but on inquiry I understood the reverse to be the case, both during the present and the succeeding winter. On the 23d there was a considerable snow-drift, the wind blowing strong from the westward; but the snow being less fine, and not so easily raised by the wind, made the atmosphere much less thick than in a higher northern latitude. Sun. 21. Tues. 22.

The wind veering to the S.E. on the 24th and 25th, the thermometer gradually rose to $+23°$. I may possibly incur the charge of affectation in stating, that this temperature was much too high to be agreeable to us; but it is nevertheless the fact, that every body felt and complained of the change. We had often before remarked, that considerable alterations in the temperature of the atmosphere are as sensibly felt by the human frame, at a very low part of the scale, as in the higher. The difference consists only in this, that a change from $-40°$ upwards to about *zero* is usually a very welcome one, while from *zero* to the freezing-point, as in the instance just alluded to, it becomes to persons in our situation rather an inconvenience than otherwise. This may be more readily imagined, by considering that our clothing, bedding, fires, and other precautions against the severity of the climate, having been once adapted to a low degree of cold, an increase of temperature renders them oppressive and inconvenient; while any reduction (of the first two at least) is impracticable with safety. To this must be added, that at this temperature the snow becomes too soft for convenient walking, and the accumulation of ice in the crevices and linings of the officers' Thur. 25.

IMAGE EVALUATION
TEST TARGET (MT-3)



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1821. October. cabins is converted into a source of extreme annoyance, which, while it continues solid, is never experienced. It is true that these inconveniences occur in a much greater degree in the spring; but being then hailed as the harbingers of the return of permanent warmth, it is easy to obviate some and would be hard to complain of any of them.

During the month of October the Aurora Borealis was occasionally seen, though with little brilliancy. From ten P.M. till midnight, on the 21st, it was visible from S.E. to S.W., but most bright in the latter direction. The light was principally stationary, but a few faint coruscations shot upwards from it now and then. During the same hours on the 23d, it was seen near the horizon from W.b.N. to S.W., having a tendency to form an irregular arch, 4° or 5° high in the centre. It was generally stationary, and at times tolerably bright, but upon the whole a poor display of this phenomenon.

Novem. Thur. 1. Frid. 2. The mild weather with which the month of October closed continued for the first two days in November. On the afternoon of the 2d, the wind freshened up to a gale from the N.b.W., and before midnight the thermometer had fallen to −5, which latter circumstance I mention here, as differing from what we had so often observed to take place at Melville Island, a rise of wind there being generally accompanied by a simultaneous rise in Sat. 3. the thermometer at low temperatures. The gale continued during the 3d, with much snow-drift. The people were carefully kept on board during this and every high wind throughout the winter, to avoid the possibility of frost-bites.

Captain Lyon having represented to me that a portion of biscuit in one of the Hecla's bread-rooms had been found damp and mouldy, I directed a survey to be held on the whole, when four hundred and seventy-six pounds were reported to be unfit for use. These bread-rooms consisted, as before described, of a portion of the forehold divided off by bulkheads on each side of the ship, for the purpose of stowing a certain quantity of bread in bulk and thus increasing our resources. Notwithstanding the above-mentioned loss, which was all that we sustained, and only amounted to eight days' proportion for one ship, the plan proved a good one, as the gain in stowage exceeded three months' bread for both.

Tues. 6. On the 6th, the wind blew strong from the eastward with overcast*

* The word "overcast" is meant to express a general obscurity of the azure colour of the sky, but without any separate clouds, which indeed we had never hitherto seen during the

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship **Fury**, during the Month of *October*, 1821.

Day	Place.	Temperature of Air in shade. Maximum.	Minimum.	Mean.	Mean Temperature of Sea Water.	Barometer. Maximum.	Minimum.	Mean.	Prevailing Winds. Direction.	Velocity.	Prevailing Weather.
		°	°	°	°	inches.	inches.	inches.			
1	Entrance of Lyon Inlet.	+32	+29½	+30.50	31.12	29.44	29.36	29.403	East.	strong	squally and rain
2		31	28	29.71	31.08	29.63	29.48	29.562	East	fresh	squally and snow
3		28	19	25.00	30.08	29.83	29.59	29.720	NE	fresh	ditto and ditto
4		23	17	19.25	28.08	29.82	29.80	29.807	NbE	modt.	fine
5		18	14	16.12	28.00	29.87	29.72	29.788	NbW	fresh	fine
6		20	11	15.37	27.92	29.93	29.86	29.895	NNW	light	fine and clear
7		16	10	13.12	27.75	29.99	29.90	29.933	NNE	modt.	hazy and snow
8	Lying at Winter Island.	15	0	8.04		30.07	29.92	30.018	NNE	light	fine and clear
9		23	7	18.12		29.83	29.50	29.677	SW	fresh	cloudy
10		22	0	11.17		29.80	29.51	29.650	NbE	modt.	cloudy and snow
11		6	− 2	2.07		29.89	29.80	29.848	NbE	modt.	fine and clear
12		12	3	6.02		29.84	29.74	29.797	NbW	light	hazy and snow
13		15	+ 3	10.33		29.91	29.77	29.835	NbE	modt.	cloudy
14		11	− 2	3.71		29.84	29.77	29.797	NbW	modt.	fine and clear
15		10	2	5.42		29.95	29.77	29.868	North	fresh	cloudy
16		11	1	3.17		30.14	30.05	30.110	NNW	modt.	cloudy
17		21	+ 5	12.67		29.94	29.46	29.760	SE	modt.	cloudy; snow at times
18		23	14	18.92		29.40	29.20	29.272	SW	light	calm at times; cloudy
19		14	5	9.58		29.53	29.31	29.468	WNW	fresh	fine.
20		6	−10	− 1.08		29.70	29.56	29.630	NbW	modt.	fine
21		1	12	6.33		29.76	29.70	29.732	NW	modt.	cloudy
22		− 8	13	10.17		29.99	29.76	29.895	NW	modt.	fine and clear
23		+ 5	5	0.25		30.04	29.99	30.010	NNW	fresh	cloudy and snow
24		5	8	+ 0.42		30.13	29.99	30.073	AM. NbW PM. ESE	light	cloudy
25		23	+ 5	16.42		29.73	29.35	29.522	SE	strong	cloudy with drift
26		23½	22	22.96		29.38	29.30	29.353	ESE	modt.	cloudy
27		24	22	23.13		29.60	29.40	29.482	ESE	light	cloudy
28		22	12½	17.50		29.74	29.61	29.692	NNE	light	cloudy
29		21½	15	18.37		29.63	29.55	29.630	NbE	strong	cloudy
30		27	20	24.79		29.60	29.50	29.553	NbE	fresh	cloudy with drift
31		27	20½	+22.67		29.80	29.60	29.702	North	light	calms; cloudy and snow
		+32½	−13	+12.51	29.15	30.14	29.20	29.725			

1821. Novem. weather and considerable snow-drift. For several days about this period the weather continued remarkably mild, the thermometer generally rising as high as from +20° to +28° in the course of the day, from the 6th to the 16th. Most of our necessary arrangements for the security of the ships and stores during the winter being now completed, the people were employed in what they called "rigging the theatre," and on the evening of the 9th the officers performed the play of the "Rivals," to the infinite amusement of both ships' companies.

Sun. 11. At two P.M. on the 11th, it now being the time of spring-tides, we observed a large crack in the ice near each of the ships, which on examination was found to extend a considerable distance outside of them. As it appeared very probable that a complete separation might take place, in which case the ships would have been drifted out of the bay, several fresh hawsers were run

Mon. 12. out a-head and attached to the grounded masses. On the following day, in order to obtain all the security in our power, some anchors and a bower-cable were run out and fixed on the beach. This precaution soon appeared no more than necessary, as half an hour before midnight the ice astern set outwards, leaving a little canal eight inches wide at the crack made the preceding day. By this disruption the ships were disengaged in part from the ice to which their sides were attached, and came a little astern; but fortunately nothing occurred to cause farther apprehension.

Tues. 13. On the 13th the Hecla was secured to the shore in the same manner as the Fury. Although the wind was from the south-east the day was beautifully clear, which was the more striking as we had lately experienced a great deal of overcast weather with northerly winds. About the time of sunset this evening the sky presented a most brilliant appearance, the part next the horizon for one or two degrees being tinged of a bright red, above which was a soft light blue, passing by an imperceptible gradation into a delicate greenish hue.

Wed. 14. It being desirable occasionally to register a thermometer at a distance from the influence of the ships, in order to compare it with the indications of that in common use on board, a post was set up on the ice, and two corresponding spirit-thermometers * selected for that purpose. The difference observed between them will be noticed hereafter.

winter in these regions. The kind of weather here alluded to is usually expressed in the Logs and Meteorological Journals by the general term "hazy."

* In making this selection, we found, on comparing ten thermometers, (of which three

On the 17th several broad lanes of water were open in the offing, and the ice as usual in rapid motion on the eastern and south-eastern sides of the island. A number of dovekies were swimming about off the point, and three of them were killed by the Hecla's people, but the tide floated them away. On the 23d there were again several miles of clear water in the offing. This always occurred to the greatest extent with a westerly breeze; while the wind from the opposite quarter, or with any southing, invariably forced the ice close in with the shore. The frost smoke was to-day extremely dense, rising about a degree above the horizon, so as completely to obscure objects at that height, and at the distance of three or four miles. As the winter advanced this occurred to a greater extent, the cloud being more dense, and also rising higher whenever there was any open water in the offing. It proved a considerable inconvenience to Mr. Fisher in the course of his observations in the winter, utterly precluding on most clear nights, which seldom happened but with a westerly wind, his obtaining a sight of low stars for the purpose of ascertaining the refraction at small altitudes. This evening the officers performed the two farces of "Raising the Wind," and the "Mock Doctor," for the amusement of the ships' companies.

1821. Novemb. Sat. 17.

Frid. 23.

The following meteorological phenomena are all that occurred worthy of notice during the month of November, in addition to those already mentioned: At nine A.M. on the 5th a parhelion appeared on each side of the sun, but very faint, and tinged only in a slight degree with the prismatic colours. At thirty minutes past nine A.M. on the 15th, the weather being rather cloudy, and a light breeze blowing from the southward, the electrometer was tried, and again at nine P.M. on the 16th, at which time the Aurora Borealis, consisting of a stationary white light near the horizon, was visible in the S.b.E. quarter of the heavens, but in neither case was the gold-leaf in the slightest degree affected.

From ten A.M. till two P.M. on the 17th a halo appeared round the sun, its radius being 22° 40′. At eight in the evening the Aurora Borealis was seen, consisting of a stationary light occupying a very small portion of the heavens in the S.E.b.E. quarter, and close to the horizon, from which at times vivid flashes shot across the zenith nearly to the opposite horizon.

were mercurial, and seven of alcohol) a difference of no less than $7\frac{1}{2}°$ between them, their indications ranging between $-22.5°$ and $-30°$. Two which indicated the mean of the whole were taken for use. *At higher temperatures* the difference was found to be very inconsiderable.

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Winter Island, during the Month of *November*, 1821.

Day	Fahrenheit's Thermometer.			Mean Temperature of Lower Deck.	Barometer.			Prevailing Winds.		Prevailing Weather.
	Maximum.	Minimum.	Mean.		Maximum.	Minimum.	Mean.	Direction.	Velocity	
	°	°	°	°	inches	inches	inches			
1	+22	+19	+20.25	64.7	29.81	29.60	29.757	North	light	cloudy and snow
2	21	− 5	13.08	60.0	29.54	29.31	29.445	North	strong	cloudy and snow
3	− 8	14½	−11.96	62.6	29.60	29.28	29.442	NNW	fresh	squally and drift
4	+ 2	8	1.71	66.6	30.12	29.73	29.932	WNW	modt.	fine
5	13	1	+4.33	65.0	30.18	30.00	30.152	NW	light	cloudy
6	22	+13	18.33	66.0	30.01	29.90	29.942	EbN	fresh	cloudy
7	22	19	20.67	69.5	29.90	29.79	29.830	NEbE	modt.	cloudy
8	20	16	18.00	63.0	29.91	29.81	29.837	NbE	modt.	cloudy
9	16	15	15.08	61.2	29.95	29.84	29.893	NbE	modt.	cloudy
10	20	14	16.04	65.2	30.12	29.96	30.047	NNE	,modt.	cloudy
11	28	15	21.96	70.3	30.01	29.88	29.930	NE	strong	hazy and considerable drift
12	28	26½	27.50	64.2	29.88	29.86	29.868	East	modt.	hazy
13	25	16	21.79	67.2	29.95	29.88	29.912	SE	modt.	cloudy
14	24	18	20.71	70.2	30.16	29.93	30.087	SW	modt.	cloudy
15	26	22	24.50	70.0	30.19	30.17	30.182	South	light	cloudy
16	21	2½	9.12	70.6	30.16	30.13	30.143	North	modt.	cloudy
17	2	− 1	0.71	67.0	30.25	30.10	30.185	North	light	fine
18	5	+ 1	3.83	67.7	30.29	30.19	30.215	NNE	light	fine
19	9	5	6.50	65.0	30.10	30.06	30.087	NNE	modt.	cloudy
20	15	6	10.17	67.3	30.25	30.10	30.135	North	light	cloudy and snow
21	13	5	9.00	66.5	30.40	30.27	30.337	NNE	light& calm	cloudy
22	13	4	7.37	67.0	30.40	30.32	30.343	West	modt.	cloudy
23	8	−15	−3.25	65.7	30.30	30.26	30.287	NW	light	cloudy
24	− 3	13	7.42	67.0	30.27	29.98	30.087	NW	light	cloudy
25	+ 2½	3	+0.08	67.5	29.98	29.85	29.926	SW	light	cloudy
26	3	17	−5.04	67.0	29.86	29.82	29.835	NNW	modt.	cloudy
27	−16	19	17.42	64.5	30.00	29.87	29.933	NW	strong	fine and clear
28	7	20	15.08	67.0	30.15	30.00	30.078	NW	fresh	fine and clear
29	+ 5	5	+0.33	61.7	30.08	29.76	29.960	West	strong	cloudy
30	11	8	4.92	64.0	29.74	29.63	29.678	West	strong	cloudy
	+28	−20	+7.75	66.1	30.40	29.28	29.983			

After ten P.M. the stationary light shifted more to the southward, and then gradually disappeared. At ten P.M. on the 18th this phenomenon assumed a similar appearance in the S.b.W. quarter. On the evening of the 23d the Aurora Borealis made its appearance in the N.W., vivid coruscations shooting at times across the zenith to the opposite horizon. The gold leaf of the electrometer was not perceptibly affected by it. On the morning of the 24th it was again faintly seen in irregular streams of white light, extending from the western horizon to the zenith: for several hours the same night also this extraordinary phenomenon was visible from the south-east round by south to west, being principally confined to a space about five degrees above the horizon. The magnetic needle, which was attentively watched, was not at all affected by any of these phenomena. On the 26th, both in the morning and evening, the Aurora again appeared from south-east to south-west, the brightest part being about ten degrees above the horizon, and with pencils of rays shooting upwards towards the zenith. In almost every instance it is observable that the light, however irregularly disposed in other respects, has a tendency to assume an arch-like form; but I think a plane bisecting the arch would more generally have coincided with the true than the magnetic meridian, in the phenomena we had here an opportunity of observing. This was particularly the case on the morning of the 27th, when at six A.M. the Aurora formed one broad continuous and well-defined arch, its centre passing rather to the southward of the zenith, and its legs appearing to rest upon the horizon at east and west. For several hours on the evening of the 28th it was seen in the south-east, with rays darting rapidly up nearly as high as the zenith. There is almost always one stationary patch of light near the horizon, appearing, as it were, the source whence the shifting or variable part of the phenomenon proceeds. It will be seen from about this period how much more frequently the Aurora seemed to issue from the south-eastern quarter than from any other during the rest of the winter. 1821. Novemb.

On the 1st of December there was a space of many miles in which none of the "old" ice was visible. The sea was here for the most part covered with a very thin sheet of "young" ice, probably the formation of a single day, since the westerly wind had driven the floes off the land. The whole of this was in motion with the tide, which breaking the thin floes left several spaces of clear water. It was observable that though a considerable frost-smoke arose from the young ice, it was not so dense as that from the clear water, Decemb. Sat. 1.

1821. Decemb. immediately over every pool of which a little thick cloud floated, corresponding as well in size as in situation with the pool from whence it issued. A number of dovekies were swimming about the point; and it being desirable if possible to obtain some of them for the sake of ascertaining their plumage at this season, we hauled the small boat over and launched her. Mr. Ross succeeded in killing one of the birds which was preserved as a specimen, but it was with great difficulty that the boat avoided being carried away from the shore by the young ice. I was on this account afraid of repeating the attempt during the rest of the winter. One grouse was seen on shore; it appeared entirely white, except having its tail black near the tip.

I was this day under the necessity of closing in my stern dead-lights, and fixing the cork-shutters between the double window-frames of my cabin, the temperature having lately fallen rather low at night; in consequence of which one of the chronometers (No. 369 of Arnold) had stopped on the 26th of November. We had before this time banked the snow up against the ships' sides; but it was now thrown higher, and its thickness at the bottom increased to about four feet. Besides this a bed of snow, three feet deep, was subsequently laid on the deck, over my cabin, and also on the forecastle over the sick-bay, to assist in retaining the warmth in those parts of the ship, an office which it seemed to perform very effectually. It was impossible, however, as the cold increased, to keep up a tolerably comfortable temperature in the cabin, if the fire was suffered to go out for several hours: for instance, the night after the above arrangements had been made, the fire was out for only six hours; and the consequence was, that the thermometer fell to 27°, and could be got
Sun. 2. no higher the following day, in the after part of the cabin, though only nine feet from the stove, than 33°. This was indeed a most inclement day, the temperature of the atmosphere having for the first time fallen to —27°, accompanied by a fresh wind from the northward and westward.

At six in the evening of the 5th there was a halo round the moon, with a confused appearance of a paraselena on the lower part of it. This halo, as I have often observed with others, had the appearance of being oval, the vertical diameter seeming to be the longest; but on measuring them with a sextant the deception became evident.

From six till ten P.M. on the 11th, a halo appeared about the moon, with three paraselenæ, two at the sides and one above it. This halo varied in its degree of clearness as the haziness of the atmosphere became greater or less, and was sometimes a little tinged with colour. A more rare phenomenon

than this was noticed at seven A.M. on the 20th, by the officer of the watch, namely, that the moon in rising had assumed the appearance of two. On hearing this I went on deck, and saw an inverted image of the moon below and nearly touching that luminary, which was about half a degree high at the time, thus: 1821. Decemb.

Mr. Scallon told me that the image had at first been as distinct as the moon itself, and it was nearly so when I saw it. This phenomenon continued about five minutes, the barometer being 29.48, and the thermometer 20°, with very clear weather at the time.

A white hare was seen on shore on the 5th, as were two or three others in the course of the winter. It is difficult to conceive how these animals find subsistence while the snow lies deep on the ground, unless indeed they become in a certain degree torpid during the winter. At Melville Island, where in the summer they were found in considerable numbers, we never saw one, nor even the track of one, before the month of June.

The wind freshened from the S.E. at night, and blew a gale from that quarter all the following day, the thermometer keeping up to about *zero* as usual, with the wind in that direction. Thur. 6.

At the time of sunset, this afternoon, and for half an hour afterwards, the sky exhibited a beautiful red colour near the southern horizon, and a soft rich purple to the northward. A great deal of clear water was observed in the offing, and at night, a dark water sky hung over it. This appearance was darker, and served better to define the exact extent of the open water during the winter nights than I ever saw it under any other circumstances, probably in consequence of the uninterrupted whiteness of every other object. The cold increased to −27° once more at midnight on the 10th, as indicated by the thermometer on the ice, but the ships continued warm and comfortable. A register-thermometer kept near the chronometers in the book-cases of the cabin indicated in general a Mon. 10.

1821. Decemb. *minimum* temperature of 50° to 53°, and frequently during the day was as high as 60°. The temperature of the lower deck at midnight was usually about 50°, without any other fire than that in the warming apparatus.

Tues. 11. On the 11th, the wind being northerly and the weather tolerably clear, stars of the third magnitude were visible to the naked eye, as late as forty minutes past eight apparent time, those of the second magnitude till a quarter past nine, and of the first till ten o'clock; after which the sky became rather overcast. This may serve to give some idea of the degree of light at this period. The twilight was of course of long duration, and the redness produced by the sun's rays was sometimes very plainly visible for more than three hours after his setting.

The temperature of the sea-water in the fire-hole was 29° and, by the same thermometer, that at the bottom in six fathoms and a half was 30°. The deposition of small snow, which I have remarked as almost always going on in these regions in the winter, took place this evening in occasional showers, so thick as to oblige us to cover the instruments with which we were observing, though the stars were plainly visible all the time, and the night was in every other respect what would generally be called clear.

A great squeezing of the young floes took place at the S.E. point of the
Wed. 12. island on the 12th. The noise it makes when heard at a distance very much resembles that of a heavy waggon labouring over a deep gravelly road; but when a nearer approach is made, it is more like the growling of wild animals, for which it was in one or two instances mistaken. It was however rather useful than otherwise to encourage the belief that bears were abroad, as, without some such idea, people are apt to become careless about going armed.

Thur. 13. On the 13th, the thermometer fell to −31° on the ice, being the greatest degree of cold we had as yet experienced. There was, notwithstanding this, a great deal of open water in the offing, covered only by a very slight sheet of young ice. A favourite walk with the officers during the winter was round the S.E. point, where there was in consequence a hard and beaten path upon the snow. The rapid tide which ran here, always kept the point clear of ice, whenever there was any open water at all; and accustomed as we had before been in the winter to a sea perfectly frozen up, it can scarcely be conceived what a relief it was to the tedious monotony of our situation, to see water naturally in a fluid state and in motion, with birds swimming about in it, even at this inclement season of the year.

The thermometer rising to — 5° in the course of the 17th, the weather appeared warm to our feelings. It proved favourable also for another play which had been fixed for this night, and the "Poor Gentleman" was performed by the officers in so admirable and feeling a manner as to excite uncommon interest among the men, and to convince me more than ever of the utility of our theatrical amusements. The 18th was a remarkably clear day without any of that cloudiness which usually hung about the southern horizon. The sun was therefore clearly visible at noon, when such was its oval shape that its horizontal diameter exceeded the vertical by 4′.07″. We had light in the cabin for reading and writing for three hours and a quarter without candles, and about five hours for convenient walking. 1821. Decemb. Mon. 17. Tues. 18.

We had about this time occasion to notice, that ever since our arrival in the bay, a gradual, though slow, alteration had been taking place in the size of the numerous grounded masses of ice in-shore, occasioned by every tide leaving a thin additional coat all round the surface of each; so that by this time, only a narrow passage could be found between some of them, where at first there had been a large space. In the course of the winter, also, a number of them were split and upset by the great rise of tide, which, together with the cracking of the floe, and the occasional overflowing of the water upon it near the beach, made the landing extremely bad. This inconvenience was particularly felt by Mr. Fisher, whose various avocations led him most on shore during the hours of darkness.

On the 21st, it blew strong from the N.W., with clear weather overhead, and some snow-drift below. We remarked, however, that the snow was still much less minute than at Melville Island, and therefore less easily raised by the wind into drift. The peculiarity before remarked of its adhering to the masts and rigging still continued also. I had three hours' daylight for writing in the cabin this day, the light being admitted only by the sky-light, and the weather unfavourable on account of the snow-drift. Frid. 21.

The shortest day had now passed, and all that could be remarked upon it was, that nobody seemed to consider it a matter of much interest one way or the other. On the former occasion, when novelty combined with the peculiarity of our situation to give it more importance, it seemed to constitute a sort of era in our winter's calendar and excited a more than ordinary sensation in our minds. The case was now very different; our wintering was no longer an experiment, our comforts were greatly increased, and the prospect of an early release from the ice as favourable as could be desired. Under these

1821. Decemb. circumstances, it may easily be imagined how light the winter sat upon us, and with what comparative indifference we now regarded the passing of the shortest day.

Mon. 24. On the evening of the 24th, being Christmas-eve, the ship's companies were amused by the officers performing the two farces of "A Roland for an Tues. 25. Oliver," and the "Mayor of Garratt." On Christmas-day, divine service on board the Fury was attended by the officers and crews of both ships. A certain increase was also made in the allowance of provisions, to enable the people to partake of Christmas festivities to the utmost extent which our situation and means would allow; and the day was marked by the most cheerful hilarity, accompanied by the utmost regularity and good order. Among the luxuries which our Christmas dinner afforded was that of a joint of English roast beef, of which a few quarters had been preserved for such occasions, by rubbing the outside with salt, and hanging it on deck covered with canvass. The low latitude in which our last summer's navigation was performed would have rendered its preservation doubtful without the salt.

Considering it interesting to try whether any difference could be detected in the rate at which sound travels at low temperatures, as compared with that usually assigned to it, we commenced a series of experiments for that purpose, by measuring a base completely across the ice in the bay, and noting by a chronometer the interval between the flash and report of a six-pounder gun fired several times at the extremity of it. An account of these experiments will be given in its proper place.

Sun. 30. For the last two days with the thermometer on the ice indicating a temperature of — 27° to — 30°, that of the Fury's lower deck continued from 61 to 64°, affording a convincing proof of the efficacy of our warming apparatus. To assist in preventing the escape of warm air, and the consequent condensation of the vapour near the ladder-hatchways, which must unavoidably be frequently opened during the day, screens had been in the early part of the winter fixed round the lower part of them, and this plan will I believe be always found necessary under similar circumstances. In spite of every precaution however, the immediate neighbourhood of the ladders must always be colder than the rest of the deck, owing to the rush of cold air which invariably takes place on the opening of the doors. I may here take the opportunity of remarking, that the construction of a ship appears in one respect unfavourable for preventing the escape of the warm air generated by the fires, and the admission of cold from the external atmosphere. I allude to all the

openings of a ship's inhabited deck into the open air, occurring *from above*, so that besides the tendency to restore an equilibrium occasioned by the rarefaction of the air below, that operation must be much assisted by the comparative specific gravities of the two atmospheres; the warm by its lightness, constantly struggling to ascend through every open crevice, and the cold by its weight, as incessantly forcing itself downwards. A consideration of this circumstance will perhaps set in a still stronger light the value of placing cork or some other slow conductor of heat, as a lining for the deck above, while it also points out the necessity of stopping up as far as practicable every hole and cranny communicating with the cold superincumbent atmosphere. On the same account there can be little doubt that, at every opening of our hatchway-doors during the winter, a larger volume of warm air rushed out than would have escaped by a door of equal size, placed *below*, or on a level with the inhabited deck *. 1821. Decemb.

The sea presented to-day a large open space to the south-eastward, but the temperature of the atmosphere being low it was almost entirely coated with a sheet of young ice. In some clear pools near the point a single flock of more than fifty dovekies were swimming about, besides other smaller ones. While continuing the experiments on sound this evening, Mr. Fisher and myself remarked that Sirius, which was nearly on the meridian at the time, exhibited the most beautiful violet and blue colours that can be imagined. The violet was to the westward, which was the direction in which the moon was, and the Aurora was playing about at the time. I thought I had never before seen any thing so brilliant; the play of prismatic colours in a cut diamond comes the nearest to it.

The concluding month of this year presented more frequent as well as more brilliant displays of the Aurora Borealis than we had noticed at an earlier period of the winter. On the evening of the 2d, we observed it constantly appearing, from five till ten o'clock, in one quarter of the heavens or another, but entirely confined to the southern side of the zenith. It consisted sometimes of luminous blotches or small clouds, at others of coruscations shooting upwards, and a stationary light always perceptible near the horizon from S.S.E. to S.W. The light was white or yellowish white, and the compass was not affected. On the evening of the 3d, it

* The passage to an Esquimaux hut is in this respect better placed than our doors; for, being rather below the level of the apartment, the warm air constantly floats above it in the dome of the hut, having no outlet but through the materials of which it is constructed.

1821. Decemb. also appeared in little white spots, resembling the *nebulæ* in the heavens, as viewed by a telescope, or the milky-way on a very clear night. I may here remark by the way, that this last beautiful feature of the heavens very seldom appeared here, for, notwithstanding the notion generally entertained of the extreme clearness of the atmosphere under a polar sky, we have always found the very reverse to be the fact. It is true, indeed, that with a northerly or westerly wind, the sky was generally what would be called clear; but there is scarcely one night in twenty when the heavenly bodies, if viewed through a telescope, do not appear surrounded with more or less haze. Indeed, it very seldom happens that a considerable deposition of minute snow may not be observed to take place, even in the clearest nights in these regions.

While making lunar observations on the evening of the 4th, Mr. Ross and myself remarked a meteor falling from the S.E. to N.W., being about 40° high when it disappeared. It fell so slowly as to be visible for four or five seconds, but was in every other respect like the falling stars, as they are called, seen in other parts of the world. At eleven P.M. the Aurora was seen forming an arch, about 5° high in the centre, and extending from S.S.W. to S.E. The magnetic needle of Alexander's compass was not perceptibly affected during its continuance. At half-past two P.M., on the 5th, the wind being light from the E.S.E., and the atmosphere not very clear, though free from clouds, the electrometer was tried, but without effect, the gold leaf not being in the least degree excited.

On the afternoon of the 14th, the Aurora began to shew itself as soon as it was dark, consisting principally of rays shooting up from the horizon in the E.b.N. towards the zenith, and sometimes passing through but very little beyond it, towards the opposite side of the heavens. Just before ten o'clock, however, a much finer display of this phenomenon presented itself than we had yet seen this season. There still remained a place near the horizon at E.b.N., whence a bright light seemed constantly to issue, and if any part of the phenomenon could be said to continue uniformly the same, it was the leg of a broadish arch in that point, which scarcely ever changed its place, or the intensity of its light. The arch was at times completed, or thrown over to the W.S.W., being 15° high in the centre, and generally about 2° broad, though in this respect it was irregular and somewhat variable. The lower part of the arch was always well defined, the space under it appearing dark, as if a black cloud had been there, which, however, was not the case, as we saw the stars in it unobscured except by the light of the

Aurora. The upper side of the arch was never well defined; but its light was gradually softened off, so as to mingle with the azure of the sky, and often sent up coruscations towards the zenith. 1821. Decemb.

Thus far description may give some faint idea of this brilliant and extraordinary phenomenon, because its figure here maintained some degree of regularity; but during the most splendid part of its continuance, it is, I believe, almost impossible to convey to the minds of others an adequate conception of the truth. It is with much difference, therefore, that I offer the following description, the only recommendation of which perhaps is, that it was written immediately after witnessing this magnificent display.

Innumerable streams or bands of white and yellowish light appeared to occupy the greater part of the heavens to the southward of the zenith, being much the brightest in the S.E. and E.S.E., from whence it had indeed often the appearance of emanating. Some of these streams of light were in right lines like rays, others crooked and waving in all sorts of irregular figures, and moving with inconceivable rapidity in various directions. Among these might frequently be observed those shorter collections or bundles of rays, which, moving with even greater velocity than the rest, have acquired the name of the "merry dancers," which, if I understand aright the descriptions given of them by others, I do not think I ever saw before. In a short time the Aurora extended itself over the zenith, about half-way down to the northern horizon but no farther, as if there was something in that quarter of the heavens which it did not dare to approach. About this time, however, some long streamers shot up from the horizon in the N.W. which soon disappeared. While the light extended over part of the northern heavens, there were a number of rays assuming a circular or radiated form near the zenith, and appearing to have a common centre near that point, from which they all diverged. The light of which these were composed appeared to have inconceivably rapid motion in itself, though the form it assumed and the station it occupied in the heavens underwent little or no change for perhaps a minute or more. Suppose, for instance, a stream of light to have occupied a space between any two of the stars, by which its position could be accurately noticed, the light appeared to pass constantly and instantaneously from one to the other, as if, when a portion of the subtle fluid of which it is composed had made its escape and vanished at the end next one of the stars, a fresh supply was uninterruptedly furnished at the other. This effect is a common one with the Aurora, and puts one in mind, as far

1821. Decemb.

as its motion alone is concerned, of a person holding a long ribbon by one end, and giving it an undulatory motion through its whole length, though its general position remains the same. One of the most striking of the various locomotive properties of the Aurora is that which it often has laterally, by which I mean in the direction perpendicular to its length. This motion, compared with the other, is usually slow, though still very rapid in the "merry dancers," which seem to observe no law with regard to the rest of the phenomenon. When the streams or bands were crooked, the convolutions took place indifferently in all directions. The Aurora did not continue long to the north of the zenith, but remained as high as that point for more than an hour; after which on the moon rising, it became more and more faint, and at half-past eleven was no longer visible.

The colour of the light was most frequently yellowish-white, sometimes greenish, and once or twice a lilac tinge was remarked, when several *strata*, as it were, appeared to overlay each other, by very rapidly meeting, in which case the light was always increased in intensity. The electrometer was tried several times, and two of Kater's compasses exposed upon the the ice, during the continuance of this Aurora, but neither was perceptibly affected by it. We listened attentively for any noise which might accompany it, but could hear none, but it was too cold to keep the ears uncovered very long at one time. The intensity of the light was something greater than that of the moon in her quarters. Of its dimming the stars there cannot, I think, be a doubt. We remarked it to be, in this respect, like drawing a gauze veil over the heavens in that part, the veil being most thick, when two of the luminous sheets met and overlapped. The phenomenon had all the appearance of being full as near as many of the clouds commonly seen, but there were none of the latter to compare them with at the time. I may in conclusion remark that, notwithstanding the variety and changeableness displayed by this Aurora, there was throughout a perceptible inclination in the various parts of it to form an irregular arch from E.b.N. over to S.W.b.W.

From seven till ten P.M., on the 20th, while engaged in making observations upon the ice, we observed the Aurora almost constantly appearing, though varying in its form and situation. It commenced with a number of vertical coruscations from the S.E., south, and N.W. horizons, darting nearly as high as the zenith. This being discontinued after half an hour, the leg of an arch appeared at E.S.E., inclining towards the south,

which remained nearly unaltered for three quarters of an hour, its light being of a yellow cast and remarkably brilliant. After this an arch was gradually formed by the light extending over to W.N.W., the brightest portion of it being still that in the eastern quarter. The arch was irregular and sometimes not continuous, but divided into a number of luminous patches like *nebulæ*. We also noticed, and now remembered to have done so once before, that there were in some places narrow but long horizontal separations of the light, appearing like so many dark parallel streaks lying over it, which, however, they were not, as the stars were here most plainly visible. The magnetic needle was not affected. This night was one of the clearest we had during the winter, the milky-way appearing unusually bright and well-defined. 1821. Decemb.

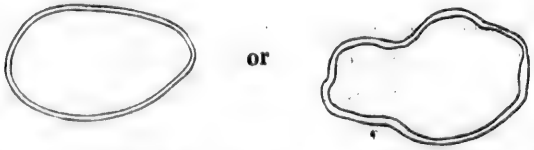
On the 22d, the electrometer was tried, the wind being light from the N. W., with overcast weather, and some very small snow falling; but no perceptible effect was produced upon the gold leaf. In the evening, the Aurora appeared, like a white cloud in the E.S.E. At half-past nine, an irregular arch extended from that point of the horizon to the S.W., the breadth being from one to two degrees, though constantly varying, and its height in the middle ten degrees. When this kind of arch appears most perfect, it is less frequently than any other kind attended with coruscations, or very rapid motion in the light. When these do accompany it, they are almost invariably observed to proceed from the upper side of the arch only.

In the evening of the 23d, though the wind was from the N.W., a number of small roundish clouds, very unusual here at this season, rose from the S.E., and the sky was very prettily illuminated in the intervals by the Aurora. These clouds remaining quite dark in their appearance, except about their edges, even during the most brilliant display of the Aurora, seemed to indicate that the latter phenomenon was the most distant of the two. The light of the Aurora was, as usual, much the brightest in the S.E. quarter. This phenomenon again made its appearance very beautifully, on the 24th, resembling, in most particulars, that described on the 14th. It was principally confined to the southern half of the heavens, and the different streamers and coruscations, though almost infinitely varied, had an evident tendency to arch from E.b.S. over to the opposite horizon. The "merry dancers" were also playing about with indescribable rapidity, and many of the sheets of light, when they overlapped in meeting, had a very perceptible lilac tinge.

On the morning of the 28th, the Aurora Borealis appeared faintly to the

1821. Decemb. westward, from 4 to 6 o'clock. Early on the following morning, it was observed to form an arch of very bright light from S.E. to S.S.W., its centre being 30° high. In its general form it was quite stationary, as indeed the more perfect arches usually are, but varied occasionally in the intensity of the light, and also in its continuity. From the time that the daylight began to leave the heavens in the afternoon, the Aurora again appeared, commencing in the S.E.b.E. with very long coruscations or streamers, which afterwards shot past the zenith over to the N.W. At 9 o'clock, the light had become concentrated into a low arch, 4° high in the centre, well defined at the lower edge, but not so at the upper. The legs were at first situated in the E.S.E. and S.W.b.W. quarters, but the former gradually shifted about two points more to the south. At one time in the evening, and before the phenomenon had assumed the more regular arch-like form above-mentioned, we observed for the space of a few minutes together the same radiated appearance about the zenith as that described on the 14th.

This changed pretty suddenly into an irregularly circular band of light, like a ribbon, thus:



and then again returned to the radiated form, but neither of these appearances continued very long. There was a great deal of the lilac tint observable this evening, and the effect of the sheets of light in obscuring the stars was again too evident to admit a doubt.

The frequency and ill success with which we had tried the electrometer made us almost despair of ever detecting any electricity in the atmosphere, but on the evening of the 13th the chain being observed to tremble very much, we thought the motion might have been occasioned by this cause.

On applying the electrometer, however, the gold leaf was not in the slightest degree affected. We afterwards found it to have arisen from the wind acting upon the plank at the mast-head in a certain angle, the same effect being once or twice afterwards produced with a breeze in the same direction. 1821. Decemb.

On the arrival of the last day of the year, it was impossible not to experience very high gratification in observing the excellent health and spirits enjoyed by almost every officer and man in both ships. The only invalid in the Expedition was Reid, our carpenter's mate, and even he was at this period so much improved, that very sanguine hopes were entertained of his continued amendment. In consequence of the effectual manner in which the men were clothed, particularly about the feet, not a single frost-bite had occurred that required medical assistance even for a day, and, what was more important to us, not a scorbutic symptom had appeared.

To increase our ordinary issue of anti-scorbutics, liberal as it already was, we had from the commencement of the winter adopted a regular system of growing mustard and cress, which the superior warmth of the ships now enabled us to do on a larger scale than before. Each mess, both of the officers and ships' company, was for this purpose furnished with a shallow box filled with mould, in which a crop could generally be raised in from eight or ten days. The quantity thus procured on board the Fury now amounted to above fifty pounds' weight, and before the arrival of spring to nearly one hundred pounds; and, trifling as such a supply may appear to those who are in the habit of being more abundantly furnished, it will not be considered to have been without its use, when it is remembered how complete a specific for the scurvy *fresh* vegetable substance has invariably proved. In consideration of the salads thus raised, Mr. Edwards recommended our reserving the cranberries intended to have been issued during a part of this winter, until circumstances might render them more essentially requisite to the health of the ships' companies. This arrangement was accordingly adopted and the event fully justified its propriety.

With respect to the occupations which engaged our time during this season of unavoidable inactivity, I can add little or nothing to my former account of the manner in which we passed the winter at Melville Island; for the two situations were so nearly similar, and our resources necessarily so limited in this way, that it was not easy to produce much variety in the employment of them. It may be imagined, and was indeed anticipated by ourselves, that want of novelty was on the present occasion a disadvantage

1821. Decemb. likely to render our confinement more tedious than before; but this by no means appeared to be the case: for the men sufficient employment may always be found to prevent the possibility of their being idle; and I have already noticed the auxiliaries, to which we had recourse to assist in promoting this end; while most officers have resources within themselves, of which scarcely any situation or circumstances can divest them. What with reading, writing, making and calculating observations, observing the various natural phenomena, and taking the exercise necessary to preserve our health, nobody I believe ever felt any symptoms of *cnnui* during our continuance in winter quarters.

Among the recreations which afforded the highest gratification to several among us, I may mention the musical parties we were enabled to muster, and which assembled on stated evenings throughout the winter, alternately in Captain Lyon's cabin and my own. More skilful amateurs in music might well have smiled at these our humble concerts; but it will not incline them to think less of the science they admire to be assured that, in these remote and desolate regions of the globe, it has often furnished us with the most pleasurable sensations which our situation was capable of affording: for independently of the mere gratification afforded to the ear by music, there is perhaps scarcely a person in the world really fond of it, in whose mind its sound is not more or less connected with "his far-distant home." There are always some remembrances which render them inseparable, and those associations are not to be despised which, while we are engaged in the performance of our duty, can still occasionally transport us into the social circle of our friends at home, in spite of the oceans that roll between us.

With our time thus occupied, our comforts so abundant, and the prospect to sea-ward so enlivening, it would indeed have been our own faults, had we felt any thing but enjoyment in our present state, and the most lively hopes and expectations for the future.

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Winter Island, during the Month of *December*, 1821.

Day	Fahrenheit's Thermometer.			Mean Temperature of Lower Deck.	Barometer.			Prevailing Winds.		Prevailing Weather.
	Maximum.	Minimum.	Mean.		Maximum.	Minimum.	Mean.	Direction.	Velocity.	
	°	°	°	°	inches	inches	inches			
1	−10	−19	−17.54	61.7	29.81	29.71	29.773	NNW	light	fine and clear
2	19	27	23.67	61.6	29.92	29.80	29.853	NNW	modt.	fine and clear
3	24	29	26.83	60.5	30.00	29.90	29.945	NW	modt.	fine and clear
4	14	22	17.67	59.2	30.01	29.96	29.990	NW	modt.	fine and clear
5	1	17	5.75	62.0	29.90	29.74	29.843	SE	light	fine
6	+1	1	+0.33	62.5	29.82	29.74	29.777	SE	fresh	cloudy
7	2	1	0.33	61.0	29.90	29.83	29.875	ESE	light	cloudy
8	2	10	−4.25	61.0	29.82	29.70	29.775	North	light	fine
9	−10	20	16.33	59.2	29.70	29.66	29.683	NW	light	fine
10	14	24	17.50	58.6	29.66	29.60	29.610	NW	modt.	cloudy
11	18	22	20.50	55.5	29.77	29.62	29.708	NNW	light	fine
12	18	21	19.21	53.4	29.82	29.62	29.745	North	light	fine
13	18	25	22.25	54.6	30.03	29.86	29.953	NW	light	fine
14	24	27	25.50	55.1	30.12	30.05	30.092	NW	light	fine
15	13	24	18.33	53.7	30.11	29.80	29.953	WNW	fresh	cloudy
16	9	13	11.12	53.3	29.70	29.60	29.637	WNW	modt.	cloudy and drift
17	5	16	8.42	55.4	29.50	29.16	29.285	SE	fresh	cloudy
18	5	18	10.58	58.7	29.63	29.34	29.525	North	light	fine
19	7	18	13.00	58.2	29.62	29.45	29.493	NW	From Strong to Light.	cloudy
20	2	15½	9.00	60.3	29.90	29.50	29.728	North	light	fine
21	5	14	11.33	60.1	29.91	29.76	29.853	NNW	fresh	cloudy
22	2	10	4.67	60.6	29.68	29.40	29.487	NW	light	cloudy and snow
23	1	8	4.00	63.5	29.72	29.46	29.587	NW	light	cloudy
24	0	6	3.67	66.4	29.80	29.70	29.762	NW	modt.	cloudy
25	+2	3	+1.00	61.8	29.61	29.37	29.470	SSW	fresh	cloudy with drift
26	2	3	−1.08	62.5	29.46	29.27	29.338	SE	fresh	cloudy with drift
27	−2	11	5.00	63.4	29.72	29.46	29.578	NNE	light	fine
28	8	21	16.79	65.25	30.05	29.72	29.912	North	modt.	fine
29	21	23½	22.42	66.25	30.12	30.06	30.102	a.m. north p.m. NW	modt.	fine
30	22	23	23.33	62.00	30.12	29.92	30.028	NW	light	fine
31	21	25	23.08	59.25	29.88	29.68	29.765	NW	modt.	fine
	+2	−29	−12.94	59.64	30.12	29.16	29.76			

CHAPTER VII.

MANY FOXES CAUGHT—CONTINUED OPEN WATER IN THE OFFING—PARTIAL DISRUPTION OF THE ICE IN THE BAY—METEOROLOGICAL PHENOMENA AND TEMPERATURE OF ANIMALS—ARRIVAL OF A TRIBE OF ESQUIMAUX—FIRST MEETING AND SUBSEQUENT INTERCOURSE WITH THEM—ESQUIMAUX IN WANT OF PROVISIONS—SUPPLIED WITH BREAD-DUST—SOME ACCOUNT OF A SEALING EXCURSION WITH THEM—FRESH DISRUPTION OF THE ICE IN THE BAY—CLOSING OF THE WINTER THEATRE—METEOROLOGICAL PHENOMENA TILL THE END OF FEBRUARY 1822.

1822. January. Tues. 1. THE first day of the new year was a very severe one in the open air, the thermometer being down to — 22°, and the wind blowing strong from the north-west. The effect of a breeze upon the feelings is well known to every person, even in comparatively temperate climates, but at low temperatures it becomes painful and almost insupportable. Thus, with the thermometer at — 55°, and no wind stirring, the hands may remain uncovered for ten minutes or a quarter of an hour without inconvenience; while with a fresh breeze and the thermometer nearly as high as *zero*, few people can keep them exposed so long without considerable pain. A high wind also had great effect in occasioning a general decrease of temperature in most parts of the ships, not by its gaining admission into the inhabited apartments, but by favouring the rapid abstraction of heat from without.

Wed. 2. About noon on the 2d, Captain Lyon observed a considerable body of snow taken up by the wind and whirled round in a spiral form like that of a water-spout, though with us the breeze was quite light at the time. It increased gradually in size till lost behind the south-east point. As a proof of the difficulty which the hares must find in obtaining subsistence during the winter, these animals were at this time in the habit of coming alongside the ships upon the ice to pick up what they could from our rubbish heaps. A fox or two still entered the traps occasionally, and our gentlemen informed me that they had always been most successful in catching them after

a southerly wind, which they attributed with great probability to the smell of the ships being thus more extensively communicated over the island. One or two of these poor creatures had been found in the traps with their tongues almost bitten in two. The traps made use of for catching these beautiful little animals were formed of a small cask, having a sliding door like that of a common mouse-trap, and were baited with oiled meat or blubber. The whole number caught during the winter was between eighty and ninety, of which more than seventy were taken before the end of December. In a single trap of Captain Lyon's, no less than fifteen were caught in the course of four hours, on the night of the 25th of November; and the people engaged in watching the trap remarked that no sooner had one of these animals been taken out, and they themselves retired a few yards, than another entered it. So stupid indeed are they in this respect that, in several instances, those which had escaped from the ships entered, and were re-caught in the same traps as before. 1822. January.

Of a great number of foxes weighed by Captain Lyon during the winter, the average weight was eight pounds, but they varied from nine and a half to seven, and he observed that the males, though larger than the females, were not so fat. The fur of the whole of them when first caught was of the purest white, except in two or three individuals of a bluish colour, which appeared to be of a different species. The great variety of dispositions displayed by those which were kept for taming was very remarkable, some being gentle and quiet from the time of their first coming on board, and others remaining wild and intractable in spite of every kindness and good treatment. Our dogs became familiar enough even to play with them; but the foxes were, on their part, never entirely free from apprehension on this account. The noise they make when irritated is a weak half-stifled sort of bark, but they have also a more shrill and piercing cry when much frightened. When placed with their houses upon the ice, they were constantly endeavouring to burrow in the snow within the circle of their chains, and one of them, where the snow lay deeper than usual, soon formed for himself a secure and sheltered apartment under it. When deprived of the means of doing this, they are far from being proof against the severity of the season, for two or three died on board the Fury entirely from this cause, though furnished with good kennels. Of those which were taken better care of, not one remained on board alive when we went to sea, the greater part having gradually wasted away, though well fed and

1822. January. housed; and the rest which were thriving better made their escape to the shore.

We had hitherto found the thermometer on board stand from two to five degrees higher than that on the ice, owing to the warm atmosphere created
Sat. 5. by the fires. On the 5th at noon, however, the difference amounted to 9°, that on board standing at — 22°, when the other indicated a temperature of —31°. We did not know to what cause to attribute this, but two or three degrees may fairly be deducted on this account from the mean temperatures given in the Meteorological Abstract throughout the winter.

Some port-wine, which was stowed in bins in the slop-room, having a week or two before been found partially frozen, a further examination took
Sat. 12. place on the 12th, when two or three bottles were found broken, and the wine entirely frozen in thin laminæ not unlike the plates of white mica, and from one-eighth to two-eighths of an inch in thickness. White wine was frozen into one mass, retaining its colour and translucency, and assuming the appearance of very clear amber. The circumstance of our never having met with so much loss in this way, in the course of a much more severe winter at Melville Island, induced us to examine into the cause; when we found it arose from a different stowage of the wine, which in the present instance had been allowed to come in contact with the ship's side, but had before been a foot or two removed from it.

Sun. 13. On the 13th we were no less surprised than gratified to see almost as much open water to the south-east and north-east of the island, as we had ever yet observed. It was covered indeed with a very thin coating of young ice, but a cloud of frost-smoke rose freely from it, which is never the case many hours after its formation. A floe of young ice, on which some of the officers had walked a day or two before to a considerable distance from the shore, having now disappeared, I considered it prudent to direct, in addition to the general precautionary orders, that no person should in future venture outside of the grounded masses in the bay.

Mon. 14. An ermine, of which the tracks had been traced the preceding day up the Hecla's stern, and even on board her, Captain Lyon to-day succeeded in catching in a trap. This beautiful creature was entirely white, except a black brush to its tail, and a slight tinge of the usual sulphur or straw colour on the root of the tail, and also on the fore part of the fore-legs. The little animal being put into a convenient cage seemed soon to feel himself perfectly at home, eating, drinking, and sleeping without any

apparent apprehension, but evincing a very decided determination to resent a too near approach to the wires of his new habitation. 1822. January.

There was to-day a very thick deposit of snow almost constantly occurring, though the weather might very well be called clear. The winter atmosphere of these regions is indeed seldom or never free from it, as may readily be seen by placing an instrument in the open air for an hour or two; that of to-day only differed from the usual deposit in the degree in which it took place. At one P.M. a thermometer on the north side of the post on the ice stood at —32°, and the other, exposed to the sun's rays on the south side, only indicated a temperature one degree higher.

There was to-day a great deal of terrestrial refraction, the ice and land to the westward being thrown up by it into a thousand fantastic and ever varying shapes. The thermometer was —31°, and the barometer at 29.73 inches, under which conditions of the atmosphere the smoke was observed to ascend quite freely from the stove-pipes. At one P.M. the snow upon the black paint-work of the stern, which was exposed directly to the sun's rays, was falling off in little pieces and leaving a wet mark behind it. This circumstance recalled to our recollection the anxious impatience with which, at Melville Island, we were watching for this symptom of returning warmth, four or five months later than this.

At thirty minutes past one on the 18th, the thermometer on the north side of the post stood at —37°, while another with its bulb coated with black rose to —26°, when exposed to the sun's rays on the south side. Frid. 18.

At a late hour this evening the stove-pipe of my cabin caught fire, which gave us cause for a momentary alarm, but buckets and water being at hand it was soon extinguished. This accident was occasioned by a quantity of soot collected in the stove-pipe, and yet was not altogether to be attributed to neglect in the persons appointed to sweep the whole of them twice a week. As the cause of it is such as is not likely to be anticipated by persons living in temperate climates, and as the knowledge of it may be serviceable to somebody destined for a cold one, I shall here explain it. The smoke of coals contains a certain quantity of water in the state of vapour. This in temperate climates, and indeed till the thermometer falls to about 10° degrees below *zero*, is carried up the chimney and principally diffused in the atmosphere. When the cold becomes more intense however, this is no longer the case; for the vapour is then condensed into water before it can escape from the stove-pipes, within which a mass of ice is, in

1822. January. consequence, very speedily formed *. The vapour thus arrested must necessarily also detain a quantity of soot, which being subsequently enclosed in the ice as the latter accumulates, the brush generally used to clean the pipes cannot bring it away. By any occasional increase of temperature, either in the external air or in the fire below, the ice sometimes thaws, pouring down a stream of water into the fire and bringing with it a most pungent and oppressive smell of soot. For these reasons, as well as to avoid accidents of the nature above alluded to, it is necessary to sweep the pipes much more frequently than in warmer climates, and even occasionally to thaw the ice out of them by a fire made expressly for the purpose.

The thermometer, which had fallen to —38° the preceding night, stood at Sun. 20. —40° at nine A.M. on the 20th, being, as it afterwards proved, the lowest temperature we were destined to experience for this winter. The thermometer rose to —36° at noon, and was ten degrees higher when exposed to the sun's rays, the weather being fine and clear and the wind very light. Tues. 22. The 22d was a very severe day in the open air, in consequence of a fresh wind blowing, which also occasioned the temperature of the Fury's lower deck to fall for the first time, though only for an hour, to 48°. The inconvenience of a cold night was felt in a greater degree, however, by the officers who, notwithstanding a most uncomfortable and even painful temperature for stage-dresses, persevered in amusing the men by the theatrical performances that had been fixed for this evening, and accordingly produced the two farces of "Raising the Wind" and "The Sleep-walker," to the infinite gratification of their audience.

About this time we were surprised to find that one of the Hecla's anchors on shore had come home, in consequence of the cable becoming more tight from the ship. This was perhaps occasioned by the ice, which was detached from the shore every tide, receiving, in the manner before described with the grounded masses, a certain daily though small addition, by which means it had imperceptibly receded, taking the ships with it. It was necessary therefore in future, to keep the cables more slack, to avoid disturbing or Frid. 25. injuring the anchors. On the 25th, being about the time of the highest

* When the weather was not very severely cold, and a part of the vapour escaped from the pipe of the galley-fire, the fore-rigging was always coated with ice, from the smoke passing by it.

spring-tide, we began to think that the ice might one day remove us rather more forcibly than by the slow process just related, for we found at daylight, to our great surprise, that a portion of the floe belonging to the bay, and which we had considered as quite fixed for the winter, had now been broken off and removed, leaving the clear water within four or five hundred yards of our sterns. A cloud of frost-smoke was issuing from it, and a flock of dovekies swimming about in it. 1822. January.

On the 26th, we flew a kite to the height of three hundred and seventy-nine feet, (as obtained by geometrical measurement,) with a Six's register-thermometer attached to it. This after it had been up a quarter of an hour indicated a *minimum* of —23¾°, the temperature upon the ice, by the same thermometer tried before and after being —24½°. Sat. 26.

Mr. Pulfer the carpenter of the Hecla in taking a walk round the S.E. point, on the 27th, was somewhat startled at suddenly observing a large bear at no great distance from him, and prudently retreated to the ships before Bruin saw him. It is commonly believed by the Greenland sailors, who have certainly the best opportunities of judging, that these animals are not generally disposed to retreat from one man, though they invariably fly from a party. Sun. 27.

On the 29th there was a fresh breeze from the N.W., which on the following day increased to a gale more to the westward. In this instance the thermometer seemed to rise with the wind, namely, from —26° in the morning to —18° at midnight. The thermometer fell again on the 31st, at the same time with the wind; but these two phenomena did not often appear to have the same connexion as at Melville Island. The month of January closed with cold though rather overcast weather, and we thought we had escaped very favourably with a mean temperature of —22° 96′. Tues. 29. Wed. 30. Thur. 31.

The appearances of the Aurora Borealis during January were generally more distinguished for their frequency than their brilliancy, or for any extraordinary forms which this phenomenon presented. Towards midnight, on the 13th, the weather being clear, it appeared in a very bright arch from south to N.E., being 10° to 15° higher in the centre. It afterwards assumed a wavy or serpentine form, which constantly varied, and smaller streams of light seemed to be continually meeting the larger, from near the zenith. From midnight till two A.M. on the 24th, it continued very bright and generally extended from east, where it was most brilliant, to W.N.W. The following evening, an arch of the Aurora assumed the most perfect

1822. January. bridge-like form I ever saw. It extended from S.E. to N.W., on the southern side of the heavens, both its edges being well defined, which is very rarely the case. At seven A.M. on the following morning, it appeared again in a form still more novel, three complete arches being now visible; the middle one, which was the brightest, passing through the zenith and the others, which were in the centre about 20° distant from it on each side, gradually closing till they joined it at the east and west points of the horizon. It was impossible not to be struck with the general resemblance in the form of this phenomenon to that I have frequently mentioned, as assumed by the clouds in the polar regions at particular seasons *: this coincidence may possibly serve to throw some light on the nature and peculiarities of the Aurora. For several hours on the same night, this meteor formed a tolerably well-defined arch from E.S.E. to W.N.W., being 6° high in the centre, reaching from one horizon to the other, and confined entirely to the southern side of the heavens. Early on the morning of the 16th, it was seen for an hour and a quarter much in the same situation, and on the following evening it appeared faintly in almost every part of the heavens.

From eleven P.M. till past midnight, on the 18th, it once more appeared very bright from W. to S.E., having at times a very rapid and irregular motion. Whenever the light was most concentrated it was also the brightest, and almost always, in that case, we observed it assume an arch-like form in the southern part of the heavens. This was particularly the case on the evening of the 19th, when there appeared two concentric though not altogether continuous arches, extending from S.E.b.E. to W.S.W., the highest being 8° to 10° above the horizon, but in this respect at times slowly varying. At eleven P.M., after thus remaining without any very remarkable alteration for above two hours, it suddenly became extremely variable, shifting its place *laterally* with a prodigiously rapid motion, but still keeping within the general limits above mentioned, both in bearing and altitude. In this lateral motion, which was somewhat of the kind I have endeavoured to describe on the 14th of December, it seemed, as it were, to *roll* over from one end of the arch to the other, while at the same time numberless lighter and less brilliant coruscations were emitted from its upper margin. Whenever the phenomenon occupied the smallest space in the heavens, the light was invariably the most intense, and often when several sheets of it appeared to unite, in the manner before

* Account of the Voyage of 1819-20, pp. 141, 144, 164.

explained, the lilac tint was quite vivid; in general, its colour was yellowish. Stars of the second magnitude were almost obscured by it. 1822. January.

Towards the end of January, this phenomenon appeared frequently in the S.E. and E.S.E., but it was generally faint, and unmarked by any peculiarity requiring farther notice. The electrometer was frequently applied to the mast-head chain, and the magnetic needle constantly watched during all these appearances, but neither of these was on any one occasion sensibly affected. The only other meteorological phenomena that need be noticed about this period were one or two instances of parhelia and paraselenæ, sometimes tinged with the prismatic tints, and sometimes colourless, but always situated at the angular distance of about 22½° on each side of the sun and moon, and usually upon halos, more or less distinct and perfect.

A sheet of young ice was several times formed and dislodged by the tides within the points of our bay but; the water continued open to the south-eastward with every northerly or westerly wind, and numerous dovekies were swimming about near the shore: neither did the land animals altogether desert us, a few foxes being still occasionally caught in traps, and one or two hares killed while literally feeding alongside the ships on our rubbish heaps.

The following temperatures of animals just after death were principally taken by Captain Lyon, to whom I am indebted for them:—

		Temperature of	
		The Animal.	The Atmosphere.
		°	°
Nov. 15, 1821.	An Arctic fox	106¾	−14
Dec. 3, „	Ditto	101½	− 5
„ „ „	Ditto	100	− 3
„ 11, „	Ditto	101¼	−21
„ 15, „	Ditto	99¾	−15
„ 17, „	Ditto	98	−10
„ 19, „	Ditto	99¾	−14
Jan. 3, 1822.	Ditto	104½	−23
„ 9, „	A white hare	101	−21
„ 10, „	An Arctic fox	100	−15
„ 17, „	Ditto	106	−32
„ 24, „	Ditto	103	−27
„ „ „	Ditto	103	−27
„ „ „	Ditto	102	−25
„ 27, „	Ditto	101	−32
Feb. 2, „	A Wolf	105	−27

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Winter Island, during the Month of *January*, 1822.

Day	Fahrenheit's Thermometer.			Mean Temperature of Lower Deck.	Barometer.			Prevailing Winds.		Prevailing Weather.
	Maximum.	Minimum.	Mean.		Maximum.	Minimum.	Mean.	Direction.	Velocity.	
	°	°	°	°	inches	inches	inches			
1	−16	−22	−19.79	61.00	29.62	29.55	29.593	NW	fresh	fine
2	18	27	22.08	57.33	29.69	29.57	29.617	NNW	modt.	clear
3	17	26	21.58	59.22	29.75	29.66	29.723	NE	light	cloudy
4	11	21	15.75	60. 5	29.69	29.45	29.547	NW	modt.	hazy and snow
5	19	26	22.50	59.66	29.72	29.70	29.710	NW	light	fine
6	17	22	19.04	55. 5	29.84	29.76	29.803	West	modt.	hazy
7	13	21	18.46	59.75	29.70	29.59	29.627	WNW	modt.	cloudy
8	17	20	19.33	58. 5	29.99	29.66	29.800	WNW	strong	cloudy
9	18	22	20.04	54.66	30.01	29.78	29.952	NNW	light	fine
10	7	13	9.42	60.33	29.70	29.47	29.565	East	light	cloudy
11	6	16	11.29	60.00	29.76	29.47	29.582	East	modt.	hazy
12	16	24	19.96	60. 5	29.88	29.80	29.847	NW	fresh	cloudy
13	20½	26	22.67	59. 5	29.89	29.72	29.757	North	light	clear
14	19	26	23.75	57.33	29.85	29.80	29.827	North	light	clear
15	19	25	22.25	53.25	29.84	29.70	29.752	NW	light	fine and clear
16	18	25	20.29	60.25	29.70	29.64	29.683	WNW	light	fine and clear
17	15	27	18.62	58.75	29.69	29.63	29.652	North	light	cloudy
18	25	31	28.46	60.00	29.74	29.70	29.713	NNW	light	fine and clear
19	28	33	30.00	58.25	29.95	29.75	29.855	West	light	fine and clear
20	27	37	33.00	58.25	30.12	29.94	30.035	NW	light	fine and clear
21	31	37¼	33.29	54.00	30.17	30.12	30.137	NW	modt.	clear
22	25	32	28.33	53.25	30.13	30.09	30.110	NW	fresh	hazy
23	29	32	30.71	51.25	30.26	30.13	30.205	NNW	modt.	clear
24	15	31	21.92	56.00	30.26	29.87	30.118	NNW	light	cloudy
25	14	27	19.54	57.00	29.70	29.48	29.577	E. to N.	fresh	cloudy and snow
26	22	30	26.46	54.00	29.51	29.42	29.466	NNW	fresh	clear
27	31	34	32.79	52. 5	29.73	29.52	29.620	NW	modt.	fine
28	30	37	34.00	52.00	29.87	29.73	29.803	NNW	light	fine
29	27	37	30.58	52.00	29.98	29.89	29.922	WNW	fresh	clear
30	14	26	18.67	52.66	30.03	30.00	30.022	West	from light to fresh	fine
31	14	24	18.25	55.00	30.02	29.94	29.980	WNW	strong to light	hazy fine
	−6	−37¼	−22.96	56.54	30.26	29.42	29.794			

On the morning of the 1st of February it was reported to me that a number of strange people were seen to the westward, coming towards the ships over the ice. On directing a glass towards them we found them to be Esquimaux, and also discovered some appearance of huts on shore, at the distance of two miles from the ships, in the same direction. I immediately set out, accompanied by Captain Lyon, an officer from each ship, and two of the men, to meet the natives who, to the number of five-and-twenty, were drawn up in a line abreast and still advanced slowly towards us. As we approached nearer they stood still, remaining as before in a compact line, from which they did not move for some time after we reached them. Nothing could exceed their quiet and orderly behaviour on this occasion, which presented a very striking contrast with the noisy demeanour of the natives of Hudson's Strait. They appeared at a distance to have arms in their hands, but what we had taken for bows or spears proved to be only a few blades of whalebone which they had brought, either as a peace-offering, or for barter, and which we immediately purchased for a few small nails and beads. Some of the women, of whom there were three or four, as well as two children, in this party, having handsome clothes on which attracted our attention, they began to our utter astonishment and consternation to strip, though the thermometer stood at 23° below *zero*. We soon found however that there was nothing so dreadful in this as we at first imagined, every individual among them having on a complete double suit. The whole were of deer-skin and looked both clean and comfortable. 1822. February

However quietly the Esquimaux had awaited our approach and still continued to conduct themselves, there was as little apprehension or distrust visible in their countenances or manner as it was possible for one strange set of persons to evince on meeting another. As soon, therefore, as we had bought all that they had to sell, and made them a number of valuable presents, we expressed by signs our wish to accompany them to their huts, with which they willingly complied, and we immediately set out together. On our way the Esquimaux were much amused by our dogs, especially by a large one of the Newfoundland breed, that had been taught to fetch and carry—a qualification which seemed to excite unbounded astonishment; and the children could scarce contain themselves for joy, when Captain Lyon gave them a stick to throw for the dog to bring back to them. A child of five or six years old, thus amusing itself on such a day and in such a climate, formed by no means the least characteristic figure of our motley group. An old and infirm

1822 February man, supported by a stick which indeed he much needed, was soon left behind us, his companions seeming to take no notice of his infirmities, and leaving him without reluctance or apology to find his way home at his own pace. When we had approached the huts within a few hundred yards, three of the Esquimaux went on before us, having previously explained that they were going to confine their dogs, lest being frightened at our coming they should run away.

When it is remembered that these habitations were fully within sight of the ships, and how many eyes were continually on the look out among us for any thing that could afford variety or interest in our present situation, our surprise may in some degree be imagined at finding an establishment of five huts, with canoes, sledges, dogs, and above sixty men, women, and children, as regularly and, to all appearance as permanently fixed, as if they had occupied the same spot for the whole winter. If the first view of the exterior of this little village was such as to create astonishment, that feeling was in no small degree heightened, on accepting the invitation soon given us, to enter these extraordinary houses, in the construction of which we observed that not a single material was used but snow and ice. After creeping through two low passages, having each its arched door-way, we came to a small circular apartment of which the roof was a perfect arched dome. From this three door-ways, also arched and of larger dimensions than the outer ones, led into as many inhabited apartments, one on each side, and the other facing us as we entered. The interior of these presented a scene no less novel than interesting. The women were seated on the beds at the sides of the huts, each having her little fire-place or lamp, with all her domestic utensils about her; the children crept behind their mothers, and the dogs, except the female ones, which were indulged with a part of the beds, slunk out past us in dismay. The construction of this inhabited part of the huts was similar to that of the outer apartment, being a dome formed by separate blocks of snow, laid with great regularity and no small art, each being cut into the shape requisite to form a substantial arch, from seven to eight feet high in the centre, and having no support whatever but what this principle of building supplied. I shall not here further describe the peculiarities of these curious edifices, remarking only that a cheerful and sufficient light was admitted to them by a circular window of ice neatly fitted into the roof of each apartment.

We found our new acquaintance as desirous of pleasing us, as we were ready to be pleased; so that we were soon on good terms with them all.

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1822. February

While we were engaged in examining every part of their huts, their whole behaviour was in the highest degree orderly, respectful and good-humoured. They eagerly received the various articles that were given them, either in exchange for their own commodities, or as presents, but on no occasion importuned us for any thing, nor did the well-known sound of "pilletay" once escape from them. We had also great reason to believe that these people possessed, in no ordinary degree, the quality of honesty, a quality the more desirable to us, as we had on shore, besides the house and observatory, all our boats and other articles, which, had they been disposed to pilfer, it would have required all our vigilance to guard. If we dropped a glove or a handkerchief without knowing it, they would immediately direct our attention to it by pointing, and if the owner had left the hut before they discovered it, would run out after him to return it. Numberless instances of a similar kind occurred in the course of our subsequent communication with them, some of which I shall hereafter have an opportunity of relating.

After remaining with them a couple of hours, and proposing to spend the following day amongst them, we set out on our return to the ships. Being desirous of trying their disposition to part with their children, I proposed to buy a fine lad, named *Toolooak*, for the very valuable consideration of a handsome butcher's knife. His father, apparently understanding our meaning, joyfully accepted the knife, and the boy ran into the hut to fetch his mittens, which seemed to be all that he cared for in leaving his home. He then set off with us in high spirits, and at first assisted in drawing a sledge we had purchased to carry our things; but as he began, by our additional signs, more clearly to comprehend our true meaning, he gradually relaxed in his zeal to accompany our party, and being afterwards overtaken by a number of his companions, he took an opportunity to slink off among some hummocks of ice, so that when we arrived on board Toolooak was missing.

On our reaching the ships, these people expressed much less surprise and curiosity than might naturally have been expected on their first visit, which may, perhaps, in some measure be attributed to their being in reality a less noisy kind of people than most of the Esquimaux to whom we had before been accustomed. Quiet and orderly, however, as they were disposed to be, this first visit shewed them to be as fond of merriment as their countrymen are usually considered; for, on Captain Lyon's ordering his fiddler up on the Hecla's deck, they danced with the men for an hour, and then returned in high glee and good humour to their huts.

1822. February

On our return on board we were informed that, during our absence in the morning, a flock of thirteen wolves, the first yet seen, crossed the ice in the bay, from the direction of the huts and passed near the ships. These animals, as we afterwards learned, had accompanied or closely followed the Esquimaux on their journey to the island the preceding day; and they proved to us the most troublesome part of their *suite*. They so much resemble the Esquimaux dogs that, had it not been for some doubt among the officers who had seen them whether they were so or not, and the consequent fear of doing these poor people an irreparable injury, we might have killed most of them the same evening, for they came boldly to look for food within a few yards of the Fury, and remained there for some time.

In order to prevent our people from occasioning the Esquimaux any disturbance or apprehension, I directed that only six from each ship should be allowed to visit the huts at one time, and that they should then be always accompanied by an officer. A strict prohibition was, at the same time, issued against the smallest article of the ships' stores being given to the people without permission, on pain of severe punishment.

Sat. 2.

At an early hour on the 2d, we set out with a large party on our proposed excursion to the huts. The natives received us with great cordiality though with somewhat more noisy expressions of pleasure than before; and we soon began a more minute examination of their habitations and furniture in which they readily assisted us, except that they always sat very closely on the deer-skins which composed their beds, under which were stowed such articles as they were least willing or able to dispose of. They sold however a great number of their things without reluctance; and it was indeed astonishing to see with what eagerness they would, for the mere sake of change and variety, barter some of their most indispensable articles for the veriest trifles in our possession. For instance, a single sewing-needle, of which they possessed abundance not much inferior to our own, procured from them a large well-sharpened *pānna**, or man's knife made of stout iron, for which in point of absolute utility a hundred needles would not have been a fair equivalent. Various other instances of the same kind occurred by which indeed they were not ultimately losers, though they certainly would have been so had our intercourse ended here.

* For an explanation of the mode of accenting the Esquimaux words used in the course of this Journal, I must refer to the remarks immediately preceding the vocabulary at the end of the last chapter.

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We dined in the huts, and the Esquimaux gladly partook of our biscuit and meat, and even of a little wine which however they did not relish. We returned on board about sunset, much gratified with the interesting day we had passed; having laid the foundation of that perfect confidence and good understanding which, with little or no interruption, afterwards subsisted between us and our new acquaintance. 1822. February

On the morning of the 3d, a number of these people were observed to set off over the ice to the south-west to bring, as we conjectured, either some more of their people or of their property from their last place of abode. On walking out to the huts after divine service, however, we found they had been seal-catching and had succeeded in taking four. The very small quantity of food which they had in their huts at first coming, consisting of a little venison and the flesh and blubber of the whale and seal, induced us to suppose they had left some of their provision behind, and that they would return for it as occasion demanded. But we now found that, even at this rigorous season, they were entirely dependent in this way on their daily exertions; and that they had only removed into their present quarters on account of the failure of their summer's store, and of the greater facility of obtaining seals at Winter Island than where the sea was more closely and continually frozen. Sun. 3.

On the 4th a number of Esquimaux came to the ships and we took the opportunity of getting them to go through the process of building a snow-hut for our amusement and information. From the quickness with which they completed this, our surprise at the sudden appearance of their village ceased; as we now saw that two or three hours would be more than sufficient to have completed the whole establishment just as we at first found it. They were then taken on board and derived great amusement from our organ, and from any thing in the shape of music, singing, or dancing, of all which they are remarkably fond. Nor can I here omit a striking instance of the honesty of these people which occurred to-day. Some of the gentlemen of the Hecla had purchased two of their dogs, which had the preceding evening made their escape and returned to the huts. After the departure of the Esquimaux to-day, we were surprised to find that they had left two dogs carefully tied up on board the Fury, which on inquiry proved to be the animals in question, and which had been thus faithfully restored to their rightful owners. Mon. 4.

On the 5th a number of the natives came on board according to promise to rebuild the hut in a more substantial manner, and to put a plate of ice into the roof as a window, which they did with great quickness as well as care, ues. 5.

1822. February several of the women cheerfully assisting in the labour. The men seemed to take no small pride in shewing in how expeditious and workman-like a manner they could perform this; and the hut with its outer passage was soon completed. From this time they were in the constant habit of coming freely to the ships; and such as it was not always convenient to admit, usually found very profitable employment in examining the heaps of ashes, sand, and other rubbish on the outside, where their trouble was well repaid by picking up small scraps of tin or iron. All that they found in this manner we allowed them to consider their lawful property; but were very particular in preventing their handling any thing on board without permission.

The wolves had now begun to do us some damage; for not even the sails that were fastened round the house and observatory could escape their ravenous fangs, and they had thus in the course of a single night much injured two of our studding-sails. We set traps for them on the ice; and also large shark-hooks secured with chains and baited with meat; but the former they entered and destroyed, and the latter were always found broken or bent, without securing the depredators. These animals were indeed so hungry and fearless as to take away some of the Esquimaux dogs in a snow-house near the Hecla's stern, though the men were at the time within a few yards of them.

From the circumstance of Captain Lyon and myself having accidentally gone into different huts on our first visits to the village, (for with this name I believe we must venture to dignify the united abodes of more than sixty human beings,) particular individuals among the Esquimaux had already in a manner attached themselves to each of us. Captain Lyon now informed me that one of his acquaintance, a remarkably fine and intelligent young man named *Āyŏkĕt*, had given him to understand that he had somewhere or other seen *Kabloona** people like ourselves only a few months ago. This being the case there seemed no reason why, if it were made worth his while, he should not be able to see them again in the course of next summer. Anxious to profit by this unexpected mode of communication, I requested Captain Lyon to endeavour to direct Ayoket's attention to the scheme of conveying a letter from us to the persons of whom he spoke.

Thurs. 7. On the 7th I paid another visit to the huts, where I found scarcely any body but women and children, the whole of the men, with the exception of the two oldest, having gone on a sealing excursion to the north-eastern side

* European.

of the island. One of the women named *Ilīgliuk*, a sister of the lad Toolooak, who favoured us with a song, struck us as having a remarkably soft voice, an excellent ear, and a great fondness for singing, for there was scarcely any stopping her when she had once begun. We had, on their first visit to the ships, remarked this trait in Iligliuk's disposition, when she was listening for the first time to the sound of the organ, of which she seemed never to have enough; and almost every day she now began to display some symptom of that superiority of understanding for which she was so remarkably distinguished. A few of the women learned several of our names to-day, and I believe all thought us Angekoks * of a very superior class, when we repeated to them all round, by the assistance of our books, the names of all their husbands obtained on board the preceding day. On our way back to the ships we saw a party of them, with their dogs, returning over the hill from the north-eastward; and we afterwards met another of eight or ten who had walked round by the south-east point on the ice, all alike unsuccessful, after being out in the wind for six hours with the thermometer from eighteen to twenty-two degrees below *zero*. Thus hardly did these people obtain their daily subsistence at this severe season of the year! 1822. February

A wolf being caught in one of the traps this evening which was so close as to be easily watched from the ship, a party of the officers ran out to secure the depredator, and fired two balls into the trap at once to despatch him. Finding after this that he continued to bite a sword that was thrust in, a third shot was fired at him. The trap was then sufficiently opened to get his hind legs firmly tied together, after which being considered tolerably secure he was pulled out of the trap, which, however, his head had scarcely cleared when he furiously flew at Mr. Richard's throat, and would certainly have done him some serious mischief had not that gentleman, with great presence of mind, seized the animal in his turn by the throat, squeezing him with all his force between both hands. This made the wolf relinquish his first attempt, and Mr. Richards only suffered by a bite in his arm and another in his knee, which, on account of the thickness of his clothes, were happily not severe ones. As for the wolf he prudently took to his heels, though two of them were still tied together, and being favoured by the momentary confusion occasioned by his late *rencontre* with Mr. Richards, succeeded in escaping his pur-

* Sorcerers, or wizards, pronounced as written above in Greenland; but at Winter Island *Añg-ĕt-kŏok*; and by the people at Igloolik *Ān-năt-kŏ*.

1822. February suers. He was found dead the following day at the distance of three-quarters of a mile from the ships.

Frid. 8. On the 8th we were visited by a musical party of females, consisting only of a few individuals expressly invited for this purpose. A number of the officers assembled in the cabin to hear this vocal concert, while Mr. Henderson and myself took down the notes of their songs, for which indeed they gave us every opportunity, for I thought they would never leave off. We afterwards amused them by our little band of flutes and violins, and also by some songs, with the whole of which they were extremely well pleased. I feared several of them, and especially Iligliuk, would have gone into fits with delight when we introduced into our song some of their names mingled with our own. While most of us were thus employed, Captain Lyon took the opportunity of making drawings of some of the women, especially of *Togolat*, the prettiest of the party, and perhaps of the whole village. She was about six and twenty years of age, with a face more oval than that of Esquimaux in general, very pretty eyes and mouth, teeth remarkably white and regular, and possessing in her carriage and manners a degree of natural gracefulness, which could not be hid even under the disguise of an Esquimaux woman's dress, and, as was usual with Togolat, the dirtiest face of her whole tribe. Her husband *Ewerat*, a little ugly man of about five-and-forty, was the only individual among them laying claim to the title of Angetkook, and was in reality a sensible obliging man, and a first-rate seal-catcher. They had two children, one of which, a little girl, Togolat still occasionally suckled and, according to custom, carried in the hood behind her back; the other a boy about eight years of age, quite an idiot, deaf and dumb from his birth, and squinting most horribly with both eyes.

Finding that these poor creatures were now really in want of food, for the men had again returned from an unsuccessful excursion, I was happy to avail myself of a hint given to me by Captain Lyon to furnish them occasionally with a small supply of bread-dust, of which we had two or three casks in each ship. Our present party was therefore, in addition to other articles, supplied with several pounds, which they immediately expressed their intention to take home to their children. Several of them visited the ships as usual on the 9th, and among the rest Ka-oong-ut and his son Toolooak. The old gentleman was not a favourite with us, being the only one who had yet begun to tease us by constant begging. We had often expressed displeasure at this habit, which after a day or two's acquaintance began to be extremely

Sat. 9.

troublesome; but I had to-day to take cognizance of his stealing a nail, of which, though not a very serious offence, I determined to take rather a serious notice, as it might otherwise lead to more extensive theft. I therefore collected all the other Esquimaux who were on board, and having in their presence expressed great indignation at this conduct, turned the offender away in disgrace. Some of those best acquainted with us were afterwards taken into the cabin, where our sentiments were more fully explained to them. Among these I was not sorry to have Toolooak and Iligliuk, who would not fail to report at the huts all our proceedings, but who did not appear to consider themselves in the slightest degree implicated in their father's offence, or concerned in his disgrace. The people of the huts being much in want of food, we again distributed some bread-dust among them, taking care to send a portion to the infirm old man, *Hik-kĕi-ĕrā*, by *Ōkŏtook*, the husband of Iligliuk, a fine active manly fellow of about two and thirty, who, as we were pleased to find the next day, had punctually executed his commission. 1822. February

On the 10th the mercury in the barometer, which had been gradually but very slowly falling for several days preceding, had got down to 28.78 inches, which is here remarkably low. It continued so with very little variation for sixteen hours, and then rose much more quickly. The wind had during this interval remained constantly from the northward and westward, and generally moderate, with now and then some snow falling, but we could perceive nothing in the weather that seemed to coincide with this unusual indication in the barometer. Sun. 10.

The Esquimaux went out to endeavour to catch seals as usual, but returned unsuccessful after several hours' labour. As it was now evident that their own exertions were not at all times sufficient to procure them food at this season, and that neither indolence nor any idea of dependence on our charity induced them to relax in those exertions, it became incumbent on us carefully to attend to their wants, and by a timely and judicious application of the slender resources we had set aside for their use, to prevent any absolute suffering among them. We therefore sent out a good meal of bread-dust for each individual, to be divided in due proportion among all the huts. The necessity of this supply appeared very strongly from the report of our people, who found some of these poor creatures actually gnawing a piece of hard seal-skin with the hair on it, while few of the huts had any lamp alight. It must be remembered that the failure of their seal-fishery always involves a double calamity, for it not only deprives them of food, but of fuel for their

1822. February lamps. When this is the case, not to mention the want of warmth and light in the huts, they are also destitute of the means of melting snow for water, and can therefore only quench their thirst by eating the snow, which is not only a comfortless but an ineffectual resource. In consequence of this, it was surprising to see the quantity of water these people drank whenever they came on board; and it was often with difficulty that our coppers could answer this additional demand. I am certain that Toolooak one day drank nearly a gallon in less than two hours. Besides the bread-dust, we also supplied them to-day with a wolf's carcass which, raw and frozen as it was, they eat with a good appetite; and indeed they had not the means of cooking or even thawing it. I cannot here omit a pleasing trait in their character, observed by our people who carried out their supplies; not a morsel of which would the grown-up people touch till they had first supplied the wants of their hungry little ones.

Mon. 11. On the 11th, the weather was severely cold, the wind blowing fresh from the north-west, with the thermometer from − 26° to − 30°. Notwithstanding the severity of the day, a few of the Esquimaux came on board, and among the rest *Siokobeut* who, on account of being the tallest and stoutest man of the tribe, had been distinguished by our people with the name of "the Commodore." He brought with him his son *Tōōněk*, a boy five or six years of age, who became a great favourite with us, and whose clean deer-skin clothes and ruddy face now gave him a very pretty and interesting appearance.

About this time we were grieved to find that our invalid, Reid, was once more attacked by his complaint, rendering such repeated bleedings necessary as to reduce him very low, and to convince Mr. Edwards that his lungs were not in a state to bear his returning strength. As if some fatality attended our carpenters, Mr. Fiddis had also, for some time past, been occasionally complaining of weakness, trembling, and sickness; but, except these two, we had not, for several weeks, had an individual in the sick-list.

Tues. 12. On the morning of the 12th Okotook and his uncle *Arnaneelia*, a sensible and worthy man about five-and-forty years of age, coming on board from their fishing, we shewed them the stage and scenery that were just put up, and invited them and their wives to the play about to be performed this evening. They accordingly went back and brought the women, who understood they were to be present at some diversion, though they did not well know what. It was enough, however, with Iligliuk just to make the motion of turning the handle of the organ, which, conveying to her mind the idea

of music and merriment, was always sure to put her immediately into high spirits. As they came three or four hours before the performance of "John Bull" was to commence, they began to grow tired and impatient, especially when it became dusk and candles were brought into the cabin. The men then explained that it would soon be dark, and that, in returning late to their huts, they should disturb the people who would then be fast asleep there. Finding that they grew uneasy, I made no objection to their returning, and sent them off loaded with bread-dust and some oil for each of their lamps. They remained long enough, however, to have a peep at *Mrs. Bradgruddery*, whose dress, when they were informed it was that of a *kablōōnă noollēē-ă*, (European wife,) they were very anxious in examining, and seemed to grieve at going away without witnessing the diversion which this and other preparations seemed to promise. 1822. February

On the 13th our friends at the huts were fortunate in procuring three seals, an event that created great joy at the village. Mr. Allison, who happened to be there when one of these prizes was announced, informed me that there was a general outcry of joy; all the women hurried to the doors of the huts, and the children rushed to the beach to meet the men dragging along the prize. One of these little urchins, to complete the triumphant exultation with which this event was hailed, instantly threw himself on the animal, and, clinging fast to it, was thus dragged to the huts. Each woman was observed to bring her *ōōtkŏosĕek*, or cooking-pot, to the hut where the seal was dissected, for the purpose of receiving a share of the meat and blubber. Wed. 13.

Some light snow fell in the forenoon, though the day was otherwise clear. A thermometer exposed to the sun's rays* at noon stood at − 9°, that in the shade being 10° lower than this. The snow was melting on the black paintwork and in other situations equally favourable. Another wolf, being the third, was entrapped this evening, and Mr. Skeoch undertook to make a skeleton of it for preservation as a specimen of these animals.

* It is here necessary to explain that the "temperatures in the sun" registered in this Journal, were taken by a thermometer suspended on the south side of an unpainted upright post, at the distance of one hundred yards from the ship; those "in the shade" by a corresponding thermometer on its north side. This explanation is necessary, because, in certain situations, such as under the lee of the house, or the ships' sterns, where much heat was radiated, the snow was frequently melting, when in places not thus favourably situated, the sun produced no such effect.

1822. February Frid. 15. On the 15th it blew a strong gale from S.W. to W.N.W., and the thermometer, either on account of the strength of the wind or its having occasionally some southing in it, rose to – 4°, being the highest temperature registered in our journals since the 27th of December preceding. I had agreed with Okotook to accompany him on a sealing-excursion, but the day proved too inclement, the Esquimaux not going out themselves, though it was not very often that the weather could prevent them. Considering it desirable to increase by all the means in our power the chances of these people giving information of us, we distributed among several of the men large round medallions of sheet copper, having these words punched through them:— "H. B. M. S. Fury and Hecla, All well, A.D. 1822." These we suspended by a piece of white line round their necks, giving them to understand that they were to shew them to any Kabloona people they might ever meet with in future. Similar ornaments, but of a smaller size, were subsequently presented to many of the women, having on them the words, "Fury and Hecla, 1822."

Sat. 16. Early on the morning of the 16th, observing a party of the Esquimaux equipped with spears passing near the ships, I joined them, accompanied by Mr. Bushnan and one or two others. Having crossed the point of the island they walked over the ice to the eastward, where we did not overtake them till they had got above a mile and a quarter from the shore. This party consisted of eight persons, among whom we were glad to find Arnaneelia, Okotook, Toolooak, *Pootooalook* his elder brother, and one or two others whom we knew. They had by this time, however, separated into two or three different parties, stationed at the distance of half a mile from each other along the edge of the floe, beyond which to the eastward there was clear water as far as we could see for frost-smoke.

The party we at first joined were seated on a high hummock of ice, with their spears in their hands, looking out for seals. After we had talked to them for a few minutes, Okotook suddenly started up and set off along the edge of the ice, without giving us or his own companions the least warning. The latter seemed so much accustomed to this, that they took no further notice than by immediately following him, and we did the same; the whole party walking at a very quick rate, and the natives keeping their heads constantly turned towards the sea to look out for seals. After being thus engaged for an hour and a half, we judged, from the motions of a party at some distance beyond us, that they had game in view. As we approached them,

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Engraved by E. Bellinden

Okotook evidently began to be apprehensive that we, who did not understand the matter, would spoil their sport. To prevent this, he did the most civil thing that could well have been devised, which was, to send his companions one by one to the spot, and to remain with us himself, keeping us at such a distance as to allow us to see their proceedings, without alarming the animal they were in pursuit of. The other seven Esquimaux, now forming one party, disposed themselves into a single line, so as to make as small an appearance as possible in the direction in which they were going, and in this manner crept very cautiously towards the margin of the floe. On a sudden they all stooped down quite low, to hide themselves, and continued thus a quarter of an hour, during which time they prepared their lines and spears; and then, when the animal appeared to be intercepted from their view, again took the opportunity of gaining a few paces upon him in the same cautious manner as before. When they had been thus occupied for a full hour, alternately creeping and stooping down, the seal which had been lying on the ice took the water, and they then gave up their chase. During this time, Okotook could scarcely restrain his impatience to be nearer the scene of action; and when we produced a spy-glass, which appeared to bring his companions close to us, he had not words to express his surprise and satisfaction. In a short time he held it as steadily as we did, and explained by signs every motion he observed. 1822. February

As soon as they had given up the seal they had been watching, the whole party seemed with one accord to turn their steps homeward, in which direction, being that of the ships also, we were by this time not sorry to accompany them. We were now between three and four miles north-east of the ships, and full a mile and a half from any part of the shore. In the open water beyond the floe, the tide was running two knots to the northward, and as the ice on which we stood had been formed only within the last fortnight, and a sheet as substantial as this had before been carried away by the stream, it was impossible not to feel some apprehension lest we might thus be detached from the shore, an accident that has been known to happen to Esquimaux ere now *, and has probably more frequently befallen them, when none have survived to tell the tale.

As we returned towards the land, we came to a small rising on the level surface of the floe not larger than a common mole-hill, and of much the same shape, at which one of the Esquimaux immediately stopped. His companions, still walking on, called us away, explaining that what we saw was the

* Crantz. London Edition, 1820, Appendix, p. 310.

1822. February

work of a seal, and that it was probable the animal was about to complete his hole and to come up on the ice, in which case the man would endeavour to kill him. We watched the man at the hole, however, with a glass, for more than half an hour, observing him constantly putting his head down towards the ice, as if in the act of listening for the seal, but without otherwise changing his position; after which, he followed us on board without success.

If, however, a man has any reason to suppose that a seal is at work beneath, he immediately attaches himself to the place, and seldom leaves it till he has succeeded in killing the animal. For this purpose, he first builds a snow-wall about four feet in height, to shelter him from the wind, and, seating himself under the lee of it, deposits his spear, lines, and other implements upon several little forked sticks inserted into the snow, in order to prevent the smallest noise being made in moving them when wanted. But the most curious precaution to the same effect consists in tying his own knees together, with a thong, so securely as to prevent any rustling of his clothes which might otherwise alarm the animal. In this situation, a man will sit quietly sometimes for hours together, attentively listening to any noise made by the seal, and sometimes using the *keip-kuttuk*, an instrument hereafter described, in order to ascertain whether the animal is still at work below. When he supposes the hole to be nearly completed, he cautiously lifts his spear, to which the line has been previously attached, and as soon as the blowing of the seal is distinctly heard, and the ice consequently very thin, he drives it into him with the force of both arms, and then cuts away with his *panna* the remaining crust of ice, to enable him to repeat the wounds and get him out. The *neitiek* is the only seal killed in this manner and, being the smallest, is held, while struggling, either simply by hand, or by putting the line round a spear with the point stuck into the ice. For the *oguke*, the line is passed round the man's leg or arm; and for a walrus, round his body, his feet being at the same time firmly set against a hummock of ice, in which position these people can from habit hold against a very heavy strain. Boys of fourteen or fifteen years of age consider themselves equal to the killing of a *neitiek*, but it requires a full-grown person to master either of the larger animals.

Sun. 17.

On the 17th, a number of the Esquimaux coming before the church service, we gave them to understand, by the sun, that none could be admitted before noon, when they quietly remained outside the ships till divine service had been performed. We then endeavoured to explain to Iligluik that every seventh day they must not come to the ships, for, without any intention of offending,

Drawn by [illegible]

Engraved by Edw[d] Finden.

they had become rather an annoyance in this way. They now brought with them a great many little canoes and paddles, sledges, figures of men and women, and other toys, most of them already bespoke by the officers and men, and the rest for sale. 1822. February

There was to-day a great deal of open water to the southward, and it had once more approached us within half a mile, the ice at the mouth of the bay having broken off and drifted away. Mr. Crozier, who visited the huts, found that the Esquimaux, as well as ourselves, had been induced to attempt the destruction of their followers, the wolves, by setting a trap for them not unlike ours, except in the materials, which consisted only of their staple commodity, ice. They had indeed great occasion to employ some such means to destroy these rapacious animals, which had already carried off one or two of their dogs, and threatened nightly to repeat this outrage.

Toolooak, who now considered himself as quite privileged to find his way into the cabin without a conductor, and was not backward in thus practising his newly-acquired art of opening and shutting the door, sat with me for a couple of hours on the 18th, quietly drawing faces and animals, an occupation to which he took a great fancy; and we often were reminded, by this circumstance, of a similar propensity displayed by his amiable countryman, our lamented friend John Sackhouse. We soon found that Toolooak possessed a capacity equal to any thing he chose to take an interest in learning; and could he at his present age have been voluntarily removed from his companions, and his attention directed to the acquirement of higher branches of knowledge than that of catching seals, he would amply have repaid any pains bestowed upon his education. I had always entertained great objection to taking any such individual from his home, on the doubtful chance of benefiting himself, or of his doing any service to the public as an interpreter. My scruples on this head had hitherto been confined to the consideration due to the individual himself, and to the relatives he leaves behind. In our present case, however, not the smallest public advantage could be derived from it; for it had long ago become evident that we should soon know more of the Esquimaux language than any of them were likely to learn of English in any reasonable period of time: I was therefore far from desiring to receive from Toolooak an answer in the affirmative, when I to-day plainly put the question to him, whether he would go with me to *kablaona noona* (European country). Never was a more decisive negative given than Toolooak gave to this proposal. He eagerly repeated the word *Na-o* (No) half a dozen times, Mon. 18.

1822. February

and then told me that if he went away his father would cry. This simple but irresistible appeal to paternal affection, his decisive manner of making it, and the feelings by which his reply was evidently dictated, were just what could have been wished. No more could be necessary to convince those who witnessed it, that these people may justly lay equal claim with ourselves to these common feelings of our nature; and having once satisfied myself of this, I determined never again to excite in Toolooak's mind another disagreeable sensation, by talking to him on this subject.

Besides the toys and models I have mentioned above, as articles of barter with these people, we also employed them more usefully in making wooden shades for the eyes, after their own method, as the time was fast approaching when some such precaution would become necessary to guard the eyes from the excessive glare of reflected light. There was also a considerable *trade* established in mittens, which being made of prepared seal-skin, and nearly water-tight, were particularly serviceable to our men when constantly handling the lead-lines in the summer. In this manner we contrived to turn our new acquaintance to some little account.

Tues. 19.

On the morning of the 19th, the thermometer, for the second and last time this winter, fell to —39° on the ice, being within one degree of the lowest temperature we here experienced. It was curious to see how clearly about this period a space continued to be marked out in the sky by the frost smoke, shewing where there was still clear water, though in some parts too distant for us to distinguish. This phenomenon consisted of a dark cloud-like appearance, rising from a very fine point at the horizon, about S.W.b.W., thence increasing in altitude to about 3° in the S.b.E., where it was highest, and again coming to a point about N.N.E. The contrast between this cloud of vapour and the white snowy sky was often peculiarly striking, particularly at night and when the moon shone bright. Whenever the clear water was near us, the frost-smoke that issued from it obscured from our sight the more distant appearance I have now described; in the first case it resembled a fog when close at hand, and in the second precisely what seamen understand by the name of "fog-bank."

Among the natives who visited the Fury to-day was Ewerat, of whom I have already spoken as *Ang-et-kook*, or chief-sorcerer of the tribe, a distinction with which he had made some of our gentlemen acquainted at one of their earliest visits to the huts. Being desirous of seeing him perform some of the tricks, which had acquired for him this pre-eminence, I requested

him to indulge me with a sight of them. After some little demur, he began to make his lips quiver, then moved his nose up and down, gradually closed his eyes, and increased the violence of his grimaces till every feature was hideously distorted; at the same time, he moved his head rapidly from side to side, uttering sometimes a snuffling sound, and at others a raving sort of cry. Having worked himself into this ridiculous kind of frenzy, which lasted perhaps from twenty to thirty seconds, he suddenly discontinued it, and suffered his features to relax into their natural form; but the motion of his head seemed to have so stupified him, as indeed it well might, that there remained an unusual vacancy and a drowsy stare upon his countenance for some time afterwards. Being pressed to repeat this piece of buffoonery, he did so two or three times; and on one occasion Togolat asked him in a serious tone some questions respecting me, which he as seriously answered. In general however the women paid little attention to his grimaces, and the whole ended with a hearty laugh from all parties. 1822. February

I had to-day some conversation with a woman named Appokiuk, whom Iligliuk had mentioned as having seen Kabloona people before us. This woman was gifted, however, with such a volubility of tongue, that speaking as she did in a language very imperfectly known to us, she gave no time for questions, and therefore afforded little information. All we could make out for certain was, that she had within a year past seen two *Kabloona Oomiak*, (whether ships or boats was still doubtful*) and that her husband was now far away. From all this we concluded that she had been far enough to the southward to see the Hudson's Bay ships in the course of their annual voyage; and this account gave us very sanguine hopes of being thus able to communicate with them by means of some of the Esquimaux.

On the 20th a number of our new friends having been allowed upon the upper deck, an old woman, named *Ayūg-gä-loŏk*, stole our cooper's punch, which she was shewing to her companions alongside the Hecla just afterwards, when Lieutenant Hoppner observed it and sent her back with an escort. It was impossible not to admit that the fault was chiefly on our side, in permitting these poor people to roam about too freely amidst temptations, which scarcely any thing human could have withstood; but as it was necessary to take some notice of it, I went through nearly the same process as with Kaoongut, and dismissed her with great appearance of Wed. 20

* These people apply the word *oomiak* to any vessel larger than a canoe.

1822. February indignation to the huts. We were glad to find that their wants had there been well supplied to-day, three seals having been caught. They had lately indeed been tolerably successful in general, and had required but little of our assistance. Mr. Elder observing one of their dogs attacked by several wolves, and hastening to the spot with his gun, found that these animals had made such quick work in the partition of their prey, that though he reached the scene of action in a few minutes, and the dog had at first made considerable resistance, only one of its hind legs remained, each wolf having run off with his share. It is remarkable that these creatures had never entered our traps since the moon had declined to the southward, whereas not a night elapsed before that without their going to them. The Esquimaux had in theirs caught only a fox.

Thur. 21. During the eclipse of the sun, which took place to-day, the diminution of light was very considerable, but the weather was unfavourable for observing it for any useful purpose. Captain Lyon remarked that some of the Esquimaux, who were on board the Hecla at the time, were a good deal alarmed at this phenomenon, which indeed made a general bustle among them. Two of them were found on the ice lying on their faces, but it was not ascertained whether their superstitions on this subject were the same as those of their brethren in Greenland.

Mr. Henderson being desirous of seeing something of the customs of these people during the hours of darkness, obtained my permission to pass the night at the huts, accompanied by Mr. Griffiths. Soon after they left the ships in the evening it came on to blow strong from the north-west, with much snow-drift, so that losing the tracks they with difficulty found the village. The wind quickly increased to a hard gale, and the thermo-
Frid. 22. meter rose from −25° at six P.M., to −16° at four the following morning. Our gentlemen returning on board in the course of the forenoon, we were pleased to hear that they had met with every attention, and especially from Okotook, with whom they lodged. As they had slept in Kaoongut's hut, one side of which was occupied by Okotook and his family, the old fellow thought it a good opportunity to make up the quarrel occasioned by his dishonesty; and he accordingly made his appearance on board to-day for the first time since that event. Tolooak was deputed to bring his father down into the cabin, where a formal reconciliation took place, to the great satisfaction of the latter, who had found out that to be out of favour with us was attended with the serious consequence

of being also out of pocket. It was laughable to observe the pains he now took to impress on the mind of every person he saw, that he was no longer a *tigliktoke*, by which name he had lately been distinguished; for he seemed to think that my receiving him again into favour was a perfect absolution from his offence. 1822. February

The gale continued to blow from the north-west throughout the day, though the barometer gradually rose from 29.73 to 29.93 inches. Two ravens were seen: these birds, which were observed frequently in the course of the winter, were almost always seen in a single pa r at a time, and their plumage remained perfectly black as in the summer.

On the 23d I paid another visit to the huts, and found the greater part of the men absent on their sealing excursions. We thought however that, except on pressing occasions, one man was left in each hut to keep an eye on the conduct of the women, and this was the case to-day. The huts had in the interior assumed a somewhat different appearance since I had last seen them; the roofs were much blackened by the smoke of the lamps, and the warmth had in most parts given them a glazed and honeycombed surface: indeed the whole of the walls had become much thinner by thawing, so that the light was more plainly visible through them. The snow also on which the lamps stood was considerably worn away, so as to destroy in great measure the regularity of the original plan of construction. To these changes might be added that of a vast quantity of blood and oil that now defaced the purity of the snowy floor, and emitted effluvia not very agreeable to European noses; so that, upon the whole, it may be imagined that our first impressions of the comfort and cleanliness of these habitations were more favourable than their present state was calculated to excite. Sat. 23.

To the original apartments they had now also added various smaller places for stores, communicating with the huts from within, and looking something like our ovens, though without any door to them. In some of these they deposited their upper jackets, which they usually take off in coming into their huts, as we do a great coat; while in smaller ones, like little shelves in a recess, they kept various articles of their Kablooana riches. These and similar alterations and additions they were constantly making throughout the winter; for their inexhaustible materials being always at hand, it required but little time and labour to adopt any arrangement that might suit their convenience.

1822 February

After distributing a number of presents in the first four huts, I found on entering the last, that Pootooalook had been successful in bringing in a seal, over which two elderly women were standing, armed with large knives, their hands and faces besmeared with blood, and delight and exultation depicted on their countenances. They had just performed the first operation of dividing the animal into two parts, and thus laying open the intestines. These being taken out, and all the blood carefully baled up and put into the *ootkooseek*, or cooking-pot, over the fire, they separated the head and flippers from the carcass and then divided the ribs. All the loose scraps were put into the pot for immediate use, except such as the two butchers now and then crammed into their own mouths, or distributed to the numerous and eager by-standers for still more immediate consumption. Of these morsels the children came in for no small share, every little urchin that could find its way to the slaughter-house, running eagerly in and, between the legs of the men and women, presenting its mouth for a large lump of raw flesh, just as an English child of the same age might do for a piece of sugar-candy. Every now and then also a dog would make his way towards the reeking carcass, and when in the act of seizing upon some delicate part, was sent off yelping by a heavy blow with the handles of the knives. When all the flesh is disposed of, for a portion of which each of the women from the other huts usually brings her ootkooseek, the blubber still remains attached to the skin, from which it is separated the last; and the business being now completed, the two parts of the hide are rolled up and laid by, together with the store of flesh and blubber. During the dissection of their seals, they have a curious custom of sticking a thin filament of skin, or of some part of the intestines, upon the foreheads of the boys, who are themselves extremely fond of it, it being intended, as Iligliuk afterwards informed me, to make them fortunate seal-catchers.

The seals which they take during the winter are of two kinds, the *Neitiek*, or small seal *(phoca hispida)*, and the *Oguke*, or large seal *(phoca barbata)*. These and the *Eĭ-ŭ-ĕk*, or Walrus, constitute their means of subsistence at this season; but, on this particular part of the coast, the latter are not very abundant and they chiefly catch the neitiek. The animal we had now seen dissected was of that kind, and with young at the time. A small one taken out of it had a beautiful skin which, both in softness and colour, very much resembled raw silk; but no inducement could make Pootooalook part with it, he having destined it for that night's supper.

After quitting this scene of filth, I found, on returning to Kaoongut's hut, that Toolooak had been no less successful than his brother, and that the same operation was also performing here. Having, therefore, explained to Iligliuk that none of them were to come to the ships the following day, I had no inclination to see the process repeated, and was glad to take my leave. 1822. February

We observed a great deal of open water to the southward, about three miles from the land, with the usual cloud of frost-smoke hovering over it. The ice on which we had accompanied the Esquimaux a few days before had now entirely disappeared, and on that side of the island the clear water again washed the shore.

On the 24th no natives visited the ships, in consequence of my injunction to that effect. This, however, was the only Sunday on which they complied with it, partly, I believe, from their not rightly understanding what we wished, but perhaps more from their not much piquing themselves on sacrificing any convenience of their own to that of others. A great number of dovekies, whose plumage appeared still whiter than before, were swimming about off the point, but the risk of sending a boat among the young ice in the tide-way was too great to attempt it. The weather was remarkably fine and pleasant, the wind being light from the north-west; but the thermometer was low during the day, and fell to − 32° at midnight. At noon, on the 25th, it was at − 28° in the shade, and at − 16° in the sun. The temperature of the sea at the surface, and that at the bottom in the seven fathoms were both 28° by the same thermometer. Sun. 24. Mon. 25.

The 26th was a clear and moderate day, and the thermometer gradually rose to − 9° at midnight. The wind became easterly for a few hours, and then suddenly veered again to the northward. Our theatre closed this night for the season with the two farces of "The Citizen," and "High Life below Stairs." The ships' companies testified the gratification which they had derived from these performances in their own way, namely, by three hearty cheers at the fall of the curtain; and the officers, I am confident, considered their trouble more than repaid by this expression of the men's feelings. Tues. 26.

The veering of the wind to the northward soon produced its usual effect of reducing the temperature of the atmosphere, and the thermometer rapidly fell till it had reached − 37°. On the 28th, Okotook and Iligliuk coming on board, an occurrence took place, which, as it shews the disposition of the Esquimaux, and especially of one of the most intelligent and interesting Wed. 27. Thur. 28.

1822. February

among them, I may here relate. Some time before, Iligliuk, who, from the superior neatness and cleanliness with which she performed her work, was by this time in great request as a sempstress, had promised to cover for me a little model of a canoe, and had in fact sent it to me by the serjeant of marines, though I had not rightly understood from the latter from which of the women it came. Believing that she had failed in her promise, I now taxed her with it, when she immediately defended herself with considerable warmth and seriousness, but without making me comprehend her meaning. Finding that she was wasting her words upon me, she said no more till an hour afterwards, when the serjeant accidentally coming into the cabin, she, with the utmost composure, but with a decision of manner peculiar to herself, took hold of his arm to engage his attention, and then looking him steadfastly in the face, accused him of not having faithfully executed her commission to me. The mistake was thus instantly explained, and I thanked Iligliuk for her canoe; but it is impossible for me to describe the quiet, yet proud, satisfaction displayed in her countenance, at having thus cleared herself from the imputation of a breach of promise.

There being among the presents with which we were supplied a number of pikes, we presented two or three of these from each ship to the most deserving of the Esquimaux, to serve as staves for their spears; and valuable ones they proved to them. Upon each pike were marked by small nails driven into the wood the words "Fury and Hecla, 1822."

Almost the whole of these people were now affected with violent colds and coughs, occasioned by a considerable thawing that had lately taken place in their huts, so as to wet their clothes and bedding; though, as will be seen by the Meteorological Register, we had as yet experienced no great increase of temperature. From the nature of their habitations, however, their comfort was greater, and their chance of health better when the cold was more severe. On this account they began to make fresh alterations in these curious dwelling-places, either by building the former apartments two or three feet higher, or adding others that they might be less crowded. In building a higher hut they construct it over, and, as it were, concentric with the old one, which is then removed from within. It is curious to consider that, in all these alterations, the object kept in view was *coolness*, and this in houses formed of snow!

Some of them had caught a wolf in their trap; but we found that nothing less than extreme want could have induced them to eat the flesh of that

which we had given them, as now that they had other food, they would not touch it. Only four wolves at this time remained alive of the original pack, and these were constantly prowling about near the ships or the village. 1822. February

The month of February closed with the thermometer at — 32°, and though the sun had now attained a meridian altitude of nearly sixteen degrees, and enlivened us with his presence above the horizon for ten hours in the day, no sensible effect had yet been produced on the average temperature of the atmosphere. The uniformly white surface of snow on which at this season the sun's rays have to act, or rather leaving them nothing to act upon, is much against the first efforts to produce a thaw; but our former experience of the astonishing rapidity with which this operation is carried on, when once the ground begins to be laid bare, served in some measure to reconcile us to what appeared a protraction of the cold of winter not to have been expected in our present latitude.

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Winter Island, during the Month of *February*, 1822.

Day	Fahrenheit's Thermometer.			Mean Temperature of Lower Deck.	Barometer.			Prevailing Winds.		Prevailing Weather.
	Maximum.	Minimum.	Mean.		Maximum.	Minimum.	Mean.	Direction.	Velocity	
	°	°	°	°	inches	inches	inches			
1	−19	−24	−20.92	55.5	30.01	29.99	30.000	NW	light	fine
2	19	28	23.42	54.7	30.03	29.99	30.008	NW	light	fine
3	27	32	28.92	58.0	30.04	29.90	29.968	NNW	light	fine
4	30	31	32.67	54.3	29.96	29.79	29.840	NNW	light	fine
5	30	34	31.54	54.3	29.79	29.76	29.780	NNW	light	fine
6	23	32	27.33	53.5	29.83	29.72	29.763	NW	modt.	cloudy
7	15	27	21.42	54.6	29.65	29.49	29.550	NNW	light	hazy
8	19½	30	25.29	57.1	29.57	29.48	29.525	WNW	light	cloudy
9	15	31	20.25	55.0	29.37	28.80	29.041	NW	light	cloudy
10	20	32	26.46	54.7	28.93	28.78	28.801	NbW	light	hazy and snow
11	21	30	26.08	55.6	29.31	28.91	29.117	North	modt.	cloudy
12	22	32	24.92	54.6	29.34	29.20	29.290	NNW	modt.	cloudy
13	15	28	22.33	56.0	29.32	28.99	29.110	NW	light	cloudy
14	13	31	25.29	54.7	29.52	29.41	29.472	NNW	modt.	cloudy
15	4	19	9.92	58.6	29.37	29.28	29.315	SW	strong	hazy and drift
16	14	28	23.42	58.7	29.35	29.29	29.318	NWbN	light	clear
17	17	30	22.92	58.2	29.26	29.14	29.193	NNW	light	fine
18	27	37	31.17	56.2	29.37	29.15	29.250	NW	modt.	hazy
19	31	37	33.33	54.2	29.74	29.43	29.582	NW	modt.	fine
20	25	36	30.42	54.2	29.92	29.78	29.872	NW	modt.	fine
21	20	30	25.17	52.2	29.85	29.72	29.795	NW	fresh	clear and drift
22	16	25	19.67	52.2	29.93	29.75	29.842	NNW	strong	hazy
23	19	25	21.33	52.0	29.99	29.93	29.952	NW	strong	hazy and drift
24	24	31	27.42	51.5	30.01	29.93	29.967	NW	strong to light.	A.M. drift P.M. fine
25	26	31	28.71	51.7	30.03	30.01	30.020	N. to W.	light	clear
26	9	32	17.75	52.2	29.98	29.80	29.898	NbE	light	hazy
27	10½	35	18.54	52.5	29.79	29.54	29.593	North	light	fine
28	30	36	32.42	53.0	29.80	29.63	29.733	North	light	fine
	−4	−37	−21.07	54.6	30.04	28.78	29.593			

CHAPTER VIII.

CHARTS DRAWN BY THE ESQUIMAUX—ILLNESS AMONG THEM—A JOURNEY PERFORMED ACROSS WINTER ISLAND—SUFFERINGS OF THE PARTY BY FROST—FURTHER NOTICE OF THE ESQUIMAUX CHARTS—DEPARTURE OF SOME OF THESE PEOPLE, AND A SEPARATE VILLAGE ESTABLISHED ON THE ICE—VARIOUS METEOROLOGICAL PHENOMENA—OKOTOOK AND HIS WIFE BROUGHT ON BOARD—ANECDOTES RELATING TO THEM—SHIPS RELEASED FROM THE ICE BY SAWING.

LITTLE as we considered ourselves to stand in need of any auxiliary resources for the complete occupation of our time during the winter, it must be confessed that the arrival of the Esquimaux served in no small degree to enliven us at this season; and, from the quickness with which the last month had appeared to pass by, we were not sorry to have dispensed with the necessity of putting to the test with what degree of patience we might otherwise have borne the remaining period of our confinement. 1822. March. Frid. 1.

Our invalid, Reid, continued about this time much the same as before, being sometimes better and sometimes worse, but without any permanent or material alteration in either way, except that which a long and tedious confinement must necessarily produce. We had now also an addition to our sick-list in the ship's cook, who complained of a severe pain in the upper part of his thigh, the bone of which had been shattered several years before by a musket-ball. It was for a few days uncertain whether this pain was rheumatic, or whether any matter was forming in the wound. The latter, however, proved to be the case, and an incision having been made, the cook was able to return to his duty in a short time.

The thermometer rose gradually from —35° on the morning of the 1st of March to —11° at night, and on the following day it had reached + 2°, being the first time we had seen it above *zero* since Christmas. This increase of temperature had been accompanied, or perhaps caused, by a change of wind Sat. 2.

1822. March. from the north-west by south to south-east; from which quarter it soon freshened to a gale, with much snow-drift. On the 3d it again drew round
Sun. 3. to the northward, but continued to blow as strong as before. During this time the mercury in the barometer did not fall below 29.94 inches, and that during a short intermission of the gale on the 2d.

In the midst of this inclement weather a number of the Esquimaux were out upon the ice to the southward, some of them at the distance of a mile and a half from the land, with large spaces of clear water intervening between it and them; the very ice on which they trod being in rapid motion with the tide, and themselves enveloped alternately in a cloud of frost-smoke or a tremendous snow-drift, which often obscured them from our sight. They seemed, however, to think nothing of this, or at least to consider themselves amply repaid for their risk and labour, by procuring abundance of seals or sea-horses on most of these excursions. They were indeed so well furnished at this time, that even our biscuit was occasionally refused.

I to-day procured from little Toonek a string of bones, which on inquiry we found to belong to a land animal called by the Esquimaux *Kablee-arioo*, and which we certainly had never met with. From the description given us by these people on this and several other occasions, we considered it likely to be the wolverene; but it must be extremely rare in those parts of America.

On the 4th we had a long visit from Okotook and Iligliuk, who both looked
Mon. 4. very ill and were labouring under severe coughs. In the course of our conversation I found from Okotook, that the man whose tent I had visited in the summer up Lyon Inlet, was named *Arnalooa*, and that he was uncle to Okotook, being the brother of his mother *Illumēa*, now at Winter Island. We found indeed that they knew the whole history of our visit; for they not only described and named the persons we saw, but related the exact manner in which Mr. Sherer's drinking-cup had been stolen, its being secreted in the boot of Arnalooa's wife, and their expulsion from our tents in consequence. We subsequently discovered that Appokiuk, the woman already mentioned as having somewhere seen *Kabloona oomiak*, was one of Arnalooa's wives, though now separated from him, and that she was one of the party in question who had visited our tents in the summer, though our short intercourse did not allow us immediately to recognise her features. It turned out therefore that the only *oomiaks* she had ever seen were our own boats on that occasion; and this was a striking instance out of many in which we at first totally misappre-

hended these people's meaning, in consequence of our ignorance of their language. 1822. March.

Being extremely desirous of ascertaining what the Esquimaux knew of the coast to the northward of our present station, we to-day drew out roughly on a large sheet of paper the conformation of the land in this neighbourhood, and as far to the westward as Repulse Bay, and then requested Iligliuk to continue it to the northward. She readily understood our meaning, and with a pencil soon traced various indentations in the coast, together with several islands, on one of which called *Amitioke*, at the distance of sixteen days' journey, she informed us she was born. As it would afford no interest to relate the various surmises, hopes, and fears, which this and several other Esquimaux charts subsequently gave rise to in our minds, it will only be necessary in this place further to remark, that our first inquiries did not produce any very satisfactory information as to the relative position or trending of the coast beyond Winter Island, and that it was not till long after this time that we were enabled duly to appreciate the geographical knowledge which they possessed.

Whatever uncertainty existed however on this subject, or whatever might be the information we could hope to obtain from the Esquimaux in the course of our further communication with them, our business was to see and not to speculate. If, as might reasonably be expected from the nature of the coast lately examined, that upon which we hoped soon to recommence our discoveries was also indented by inlets and fringed with numerous islands, it had long before occurred to Captain Lyon and myself in the course of our conversations on this subject, that considerable time might be saved to the ships, during the short season of navigation about to commence, by sending a party by land to complete as much as possible of that examination before the ships were released from the ice. As it was requisite that this should be accomplished before the commencement of a general thaw, by which the return of the party might have been altogether prevented, preparations were now made for a journey of this nature; and Captain Lyon offering his services to command the Expedition, the proper number of individuals were selected to commence their arrangements under his orders. As one of the Esquimaux with whom we were well acquainted might prove of service on such a journey, Captain Lyon's friend Ayoket, who was in every respect the most eligible for the purpose, was informed of our intentions and a proposal made to him to accompany the party to "Iligliuk's country."

1822. March. We had now succeeded in taking the last wolf in a trap, the Esquimaux having caught two, and the other eleven having been entrapped or shot near the ships. The natives were greatly relieved by the extirpation of these ravenous animals which were constantly alarming them at the huts; and we were ourselves not sorry to have got rid of them so soon.

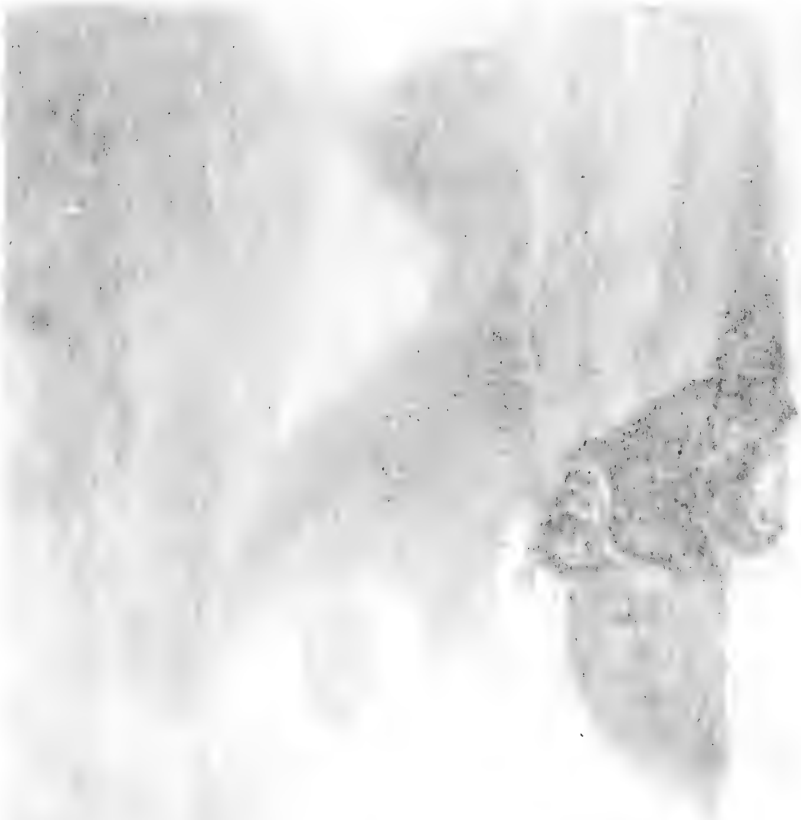
Thur. 7. On the 7th the wind got round from north to south-west and increased to a strong gale from that quarter, which continued without intermission and with almost constant snow the whole of the 8th. It was remarkable that the mercury in the barometer was stationary at 30.31 inches for eight hours on the night of the 7th and the morning of the 8th, though the wind had then been blowing strong for more than half a day. The thermometer again rose to +2° this morning.

To ascertain the thickness of the ice formed in the bay since the close of the last autumn, a hole was dug in a part where no separation had taken place since the commencement of the winter's frost, and where in fact we had seen it commence. The thickness of the floe was here four feet seven inches, being the produce of exactly five calendar months. The ice was hard, brittle, and transparent till within six or eight inches of the lower surface, where it became soft and porous, allowing the water to filter slowly through it.

The Esquimaux were fortunate in killing another walrus which we met them dragging in high spirits towards the village. They usually divide these huge animals on the spot into four or five parts, each of which with its proportion of the intestines is sewn up so as to resemble a seal at a little distance. Four or five dogs, if they have them at hand, are fastened to each of these, and the man who attends them frequently rides home upon it as on a sledge.

Sat. 9. The wind moderated on the 9th, but continued from the south-west, and a great deal of snow fell. The mildness of the weather (the thermometer having got as high as + 13°) continued to incommode the natives in their huts more and more, and severe coughs and catarrhs were still epidemic among them. Some of the women had quite lost their voices, and almost every individual was more or less a sufferer from the constant dripping of water from the roofs of their apartments.

Sun. 10. On the evening of the 10th, while I was sitting in my cabin, the door opened gently and in walked Toolooak, who very unceremoniously seated himself on the opposite side of the table, and soon began to display not only his usual good humour, but a degree of archness for which we had before scarcely given him credit. As a specimen of this, though by no means the only one with



which he treated us, I had no sooner gone into the gun-room to drink tea, than Toolooak, who was now alone in the cabin, took it into his head to play my servant a trick; for which purpose he boldly rang the bell, and when the servant came, laughed at him very heartily for his pains. After levying contributions by way of supper on all the officers' messes, he wrapped himself up in all the skins we could muster, and slept soundly on my lockers till the morning, when after a hearty breakfast he took his departure, well pleased with his entertainment, but still more with the various presents he took with him. 1822. March.

On the 12th, Okotook came, according to an appointment previously made, with a sledge and six dogs to give me a ride to the huts, bringing with him his son Sioutkuk who, with ourselves, made up a weight of near four hundred pounds upon the sledge. After being upset twice and stopping at least ten times, notwithstanding the incessant bullying of Okotook, and as it seemed to me, more bodily labour on his part to steer us clear of accidents, than if he had walked the whole way, we at length arrived at the huts, a distance of two miles, in five-and-twenty minutes. Of this equipment, and their usual modes of travelling, I shall have occasion to speak more fully in another place. Tues. 12.

I found that several fresh alterations had been made in the huts since my last visit, all however of the same kind, and having in view the same object as those last described. In these alterations they seem to consult the convenience of the moment, and to do it all by such unanimous consent that no consultation or difference of opinion ever appears to exist about it. So much snow-drift had now collected about the huts, that their external appearance was as much altered as that of the interior, and it was difficult to trace any resemblance to the original village, or even to perceive its present limits. The snow was now as high as the roofs on every side, so that one might walk completely over them, and, but for the round plates of ice composing the windows, without suspecting the little hive of human beings that was comfortably established below. This however was not always done with impunity, when the thawing within had too much weakened the roofs, in which case a leg sometimes made its way through, and discovered in what parts repairs were becoming necessary. The natives were at this time extremely well furnished with seals' flesh for food, and oil for their lamps, and all they would accept from us (except meat which we could not afford to give) was water, and this

1822. March. they swallowed in such quantities whenever they came to the ships, that it was impossible to furnish them with half as much as they desired.

We had before this time communicated to Ayoket and his countrymen our intention of sending a party of our people to the northward in the spring; and Captain Lyon had displayed to him all the charms of a brightly polished brass kettle, of greater magnitude than had perhaps ever entered into an Esquimaux imagination, as an inducement among various others for him to accompany the Kabloonas in their excursion. The prospect of such riches was a temptation almost irresistible; but enterprise is not the genius of an Esquimaux, and Ayoket, we soon began to perceive, had no fancy for the proposed trip, which all his friends persisted in saying could never be accomplished. This was evidently to be attributed, in no small degree, to jealousy of any one individual among them being thus selected; and the brass kettle was speedily the means of increasing the distance to "Iligliuk's country" from sixteen to twenty-four days' journey. We had long, indeed, observed that this feeling of jealousy was easily excited among these people; but what is extraordinary, it never displayed itself (as is most usual) among themselves, but was entirely vented upon us, who were, though innocently, the authors of it. As an instance of this, a man of the name of *Karrĕtok* refused to take from me a strong and useful pair of scissors as a present, because, as he did not hesitate to assure me, I had given Okotook a pike which was *more* valuable. To shew him that this temper was not likely to produce any thing to his advantage, I took back the scissors, and having sent him away went to my dinner. Going accidentally on deck an hour afterwards, I found Karretok still on board, who having had time to reflect on his folly now came up to me with a smiling face, and begged hard for the scissors, which of course he did not get. Many similar instances occurred, both to Captain Lyon and myself.

To this discouragement on the part of his friends was added on that of Ayoket the same wavering and inconstant disposition which most other savages possess, rendering it impossible to place any dependence on his promises and intentions for two hours together. Indeed the more our scheme was pressed upon his attention, and the more he saw of the actual preparations for the journey, the less doubtful his intentions became; and arrangements were therefore made for completing the party without him. For the reasons now given, it was equally impossible ever to direct the attention of

the Esquimaux, with any hope of success, to our scheme of their conveying letters to the Hudson's Bay settlements. 1822. March

On the 13th and 14th, the weather was extremely mild, the thermometer getting as high as +9½°; and as this took place with a north-west wind, which was usually the coldest, we began to flatter ourselves that the spring was now indeed advancing by rapid strides. On the evening of the 14th, though the thermometer was no higher than +4°, the atmosphere had a degree of softness in it so pleasant to our sensations that, as one of the quarter-masters not unnaturally however unphilosophically remarked, "it felt exactly as if it was going to rain"—a phenomenon, however, that was not so near as we then expected. This apparent turn in the season induced me to allow Captain Lyon to put in execution a plan he had proposed, of going out with his intended party for one day, for the double purpose of affording them a little practice, and of ascertaining the breadth and nature of the channel which he would have to cross on the ice, in order to reach the main land. As the plan of the journey partly depended upon this, I agreed to his proposal of setting out for this purpose on the following day, taking with him a tent, blankets and provisions for three days in case of accidents.

At seven A.M. on the 15th, Captain Lyon and his party left the ships; Frid. 15. the thermometer being as high as *zero*, and a moderate breeze blowing from the northward though accompanied by considerable snow-drift; an annoyance which it now required much less strength of wind to create than at the commencement of the winter, owing to the snow having become more minute. From the very hour of Captain Lyon's departure the thermometer began to fall rapidly, and the wind to increase; till at midnight the former had reached −32° and a hard gale blew from the north-west; upon the whole it proved one of the most inclement nights for people to be exposed to, that we had experienced in our present quarters, and therefore created in our minds the most alarming apprehensions for the safety of our travellers. It is scarcely less difficult to imagine than to describe the contrast between exposure to all the horrors of such tremendous inclemency, and the fireside comforts we on board were enjoying. In this climate more frequently than in any other does the mind turn to the

> Poor naked wretches, wheresoe'er they be,
> That bide the pelting of the pitiless storm.

But now that some of our own companions were thus exposed, the idea came

1822. March. more forcibly home to our recollections, together with the utter helplessness, not to say hopelessness, of their situation.

Sat. 16. The wind and drift continued incessantly on the 16th; and as the thermometer rose no higher than —20° during the day, our apprehensions for Captain Lyon's party were by no means diminished. To send in quest of them, would have been only to incur the certainty of other men being equally exposed. Indeed this is one of the cases in which no assistance can be offered; for any persons sent out with that hope must inevitably become helpless in a short time, while the snow-drift would render it impossible to trace those whom they were intended to assist. We had however prepared a party under Lieutenant Reid to be despatched the instant it moderated, when to our infinite surprise and joy, at one P.M. Captain Lyon arrived on board, having with great difficulty succeeded in conducting his party safely to the ships.

If I have succeeded in imparting to the reader any idea of that apprehension for the safety of our absentees, which we ourselves experienced, he will not be sorry at once to be presented with Captain Lyon's account of this perilous though short excursion:

"At seven A.M., on the 15th, we proceeded towards the hills to the northward of our winter-quarters. A strong wind arose soon after our starting, and blew directly in our faces, bringing thick clouds of drift snow with it. On ascending the sloping ground we found the sledge too much for us, and it was with great difficulty dragged through the soft snow in which we waded knee deep. The wind had now increased to a heavy gale, our utmost view was bounded to twenty yards, and every time of resting to take breath we all received severe frost bites. The sun having risen above the thickest part of the drift snow enabled us to steer a direct northerly course, for we expected in that direction to arrive at a small bay, which had been observed by Captain Parry and myself on our first arrival. At ten we were confirmed in our conjecture by descending suddenly and arriving at a quantity of grounded ice, directed by which we made our way round the head of the bay, and arrived on the side of a small hill a little after eleven. The extreme severity of the weather determined me on pitching our tent, and waiting until, in better weather, we could from the rising ground command a view of our future route.

1822. March.

"When the tent had been pitched an hour, and our party were all smoking to promote warmth, the temperature at our feet was 1° below *zero*, and over head amongst the smoke + 7°; in the outer air it was − 5°, which although of itself sufficiently cold was rendered doubly piercing by the strength of the wind. John Lee was soon seized with a fit of shivering and severe pains in the loins, to check which we put him into his blanket and covered him with clothes which could ill be spared. A deep hole being dug in the snow a fire was made with the greatest difficulty, and we were made comfortable for a time by a warm mess of soup. I afterwards found that it would be possible by extending our excavation to make a cavern in which we might pass the night, for it would have been next to impossible to continue in the tent. Some of the men were therefore set to work, and had thus so good an opportunity of warming themselves, that our only shovel was lent from one to the other as a particular favour. At two P.M. the outer air was −15°, and *zero* was the temperature of the tent, when Arnold's pocket chronometer stopped from the effects of the cold. By four P.M. the cavern was finished and of sufficient size to contain us all in a sitting posture. After taking some hot soup, Lee was removed to the warmest place we could select and, making a fire, we managed by its smoke, which had no vent, to raise the temperature to +20°, while outside it had fallen to −25°. We now cleaned our clothes as well as possible from the thick coating of snow-drift, and closing the entrance of the cave with blocks of snow, we crept into our blanket bags, and huddled close together to endeavour to procure a little sleep. Our small dwelling had a very close feel, which was perhaps not a little augmented by the reflection that a spade alone could liberate us again after a night's drift of snow; and our roof being two feet thick, and not of the most secure description, there was no small probability of its breaking down on us, in which case, confined as we were in our bags, and lying almost upon each other, we should have but little chance of extricating ourselves.

"At daylight on the 16th we found the temperature at +26° until we dug out the entrance, when it fell to + 15°, while outside it was −25°. We again lighted our fire and, after sitting two hours in such thick black smoke that we could not see our feet, succeeded in making some tea, which answered a double purpose, as it served to thaw some meat which was frozen in the canisters. At nine A.M. the gale was unabated, and the drift as

1822. March. severe as ever. The tent was half buried in the snow, and I set all hands to work at digging out the sledge, but it was so deeply sunk that our efforts were unsuccessful, and in the attempt our faces and extremities were most painfully frost-bitten. With all these difficulties before us, Mr. Palmer and myself consulted together as to whether it would be most prudent to endeavour to pass another night in our present precarious situation, or while we were yet able to walk make an attempt to reach the ships, which we supposed were about six miles from us. We could not see a yard of our way, yet to remain appeared worse than to go forward, which last plan was decided on. At thirty minutes past nine, having placed all our luggage in the tent, and erected a small flag over it, we set out, carrying a few pounds of bread, a little rum, and a spade. The wind being now in our backs, we walked very briskly, and having an occasional glimpse of a very faint sun through the drift, managed to steer a tolerable course. James Carr having loitered a little behind us was suddenly missed, and by the most fortunate chance we saw him running across our path in search of us; for had he been ten yards farther off he might have been lost. After walking several miles we came to grounded ice, and saw the tracks of Esquimaux men and dogs, but these were so confused that we knew not which marks to follow.

"Not knowing on which side of the ships we had arrived, we feared to go to the southward or eastward, and accordingly went as nearly west as possible, in which direction we again crossed tracks. We now wandered amongst the heavy hummocks of ice without knowing which track to pursue, and, suffering from cold, fatigue, and anxiety, were soon completely bewildered. Several of our party began to exhibit symptoms of that horrid kind of insensibility which is the prelude to sleep. They all professed extreme willingness to do what they were told in order to keep in exercise, but none obeyed; on the contrary they reeled about like drunken men. The faces of several were severely frost-bitten, and some had for a considerable time lost sensation in their fingers and toes; yet they made not the slightest exertion to rub the parts affected, and discontinued their general custom of warming each other on observing a discoloration of the skin. We continued for some time to employ them in building a snow-wall, ostensibly as a shelter from the wind, but in reality to give them exercise, for standing still must have proved fatal to men in our circumstances. My attention was particularly directed

to Serjeant Spackman, who having been repeatedly warned that his nose was frozen had paid no attention to it, owing to the state of stupefaction into which he had fallen. The frost-bite had now extended over one side of his face, which was frozen as hard as a mask, the eye-lids were stiff, and one corner of the upper lip so drawn up as to expose the teeth and gums. My hands being still warm, I was enabled to restore the circulation, after which I used all my endeavours to keep him in motion, but he complained sadly of giddiness and dimness of sight, and was so weak as to be unable to walk of himself. His case was indeed so alarming, that I expected every moment he would lie down never to rise again. Our prospect now became every moment more gloomy, and it was but too evident that four of our party could not survive another hour. Mr. Palmer, however, endeavoured with myself to cheer the people, but it was a faint attempt as we had not a single hope to give them. We had less reason to fear immediate danger to ourselves, in consequence of having fur coats instead of woollen ones. Every piece of ice, or even small rock or stone, was now taken for the ships; and we had great difficulty in preventing the men from running to the different objects which attracted them, and losing themselves in the drift. In this state, while Mr. Palmer was running round us to warm himself, he suddenly pitched on a new beaten track; and as exercise was indispensable, we determined on following it wherever it might lead us. Having taken the serjeant under my coat, he recovered a little and we moved onwards, when, only those who have been in a similar state of distress can imagine our joy at finding the path led to the ships, at which we arrived in about ten minutes. 1822. March.

"John Lee had two of his fingers so badly frost-bitten as to lose a good deal of the flesh of the upper ends, and we were for many days in fear he would be obliged to have them amputated. Carr, who had been the most hardy while in the air, fainted twice on coming below; and all had severe frost-bites in different parts of the body, which recovered after the loss of skin usual in those cases."

Notwithstanding the inclemency of the weather, some of the Esquimaux had, by the foot and sledge marks, found their way to the ships on the morning of the 16th, assuring us, as we found to be too true, that in consequence of the gale which prevented their going out for seals they had not any food, nor a single lamp a-light at the village. In the course of the following day, Sat. 16.

1822. March. we had further proofs of the wretchedness which these poor people were enduring at the huts; for, though the weather was very little better than before, above forty men and women besides some children came down to the ships, and begged with more than their usual earnestness for something to eat. It now once more became an act of humanity, and consequently of duty, to supply them as well as we were able; and all were admitted to partake of as much bread-dust as they could eat, besides a quantity which they took away with them. It had been long since Okotook and Iligliuk cared to accept this kind of food from us, partly because our respect for the latter generally ensured them something better, and partly because of late they had procured plenty of seals; to-day, however, they devoured it eagerly, and seemed very well satisfied to take their share with the others. When the usual time of departure came, they all discovered a wish to remain on board; but as we could not find lodging for the whole tribe, they were obliged very reluctantly to return. *Nannow*, a fine quiet young man whose native country is near Chesterfield Inlet, and who, having only a sister here, used to live with Okotook, begged very hard to remain on board, but as I did not like to give the preference to one in particular, he also took his leave.

The wind abated towards night, after a gale which, both for duration and strength, might well be called equinoctial. The indications of the barometer on this occasion deserve to be noticed. The mercury had fallen with unusual rapidity from 29.46 inches at four P.M. on the 14th, to 28.80 at eight A.M. on the 15th, at which time the gale may be said to have commenced. What was remarkable, however, is that this was its *minimum*, and that from this time the mercury almost constantly, though very slowly, rose to 29.19 on the evening of the 17th, when the wind moderated. On the following day, the 18th, when the weather was quite fine, the barometer rose very quickly to 29.84 at midnight, and continued to rise till it had reached its *maximum*, 30 inches, on the evening of the 19th. It may be interesting to notice that, during this three days' gale, which was certainly well calculated to try the merits of our warming stove, the mean temperature of the Fury's lower deck had been from 58° to 62°, and that the thermometer had never stood lower than 56°. The temperature of the sick-bay was always above 60°.

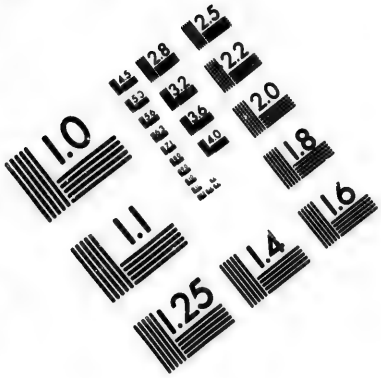
Mon. 18. On the 18th, almost every man from the huts was out seal-hunting, and three or four, as the women informed us, had gone to a considerable distance for walruses, and with the intention of remaining out for the night in a snow hut. While the men were thus employed, their wives did not fail to use

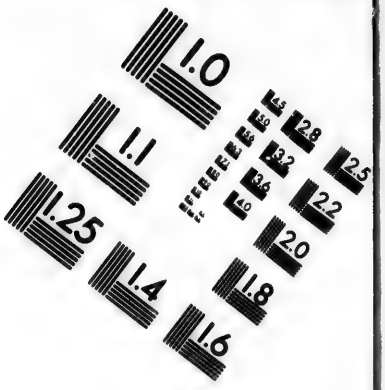
their endeavours also to procure food; and I believe that every female belonging to the village, without a single exception, made her appearance at the ships to-day, and was supplied with a proportion of bread-dust for her family. It was pleasing to observe, that they were always punctual in returning the buckets and bags which we lent them for carrying out their provisions. 1822. March.

The fact of our ships not having required pumping out, either here or at Melville Island, for several months together during the winter, naturally led me to consider what was likely to be the reason of this extraordinary tightness. It is true indeed, that after the first winter a certain quantity of ice was subsequently found mixed with the coals which composed our ballast, but this quantity was a trifling proportion to the ten or twelve inches of water which found its way into the pump-well *daily* throughout the summer. It appears probable, therefore, that any small leak through which the water only slowly filters may become altogether stopped by its freezing, whenever the temperature of the hold has fallen a few degrees below the freezing-point of sea-water. For the latter being already cooled down as low as in its fluid state it can be, will very readily freeze when, by its entrance into the ship, it meets with a greater degree of cold, especially if (as is very frequently the case) the leak should be about a metal bolt which, by its conducting property, would very much favour the process of congelation.

We had clear and very moderate weather on the 20th, and yet the thermometer fairly exposed to the sun's rays rose only to —5°, or about 12° higher than in the shade, and this with the sun twelve hours above the horizon, and 24° high at noon. At night it blew a strong breeze from the W.N.W., with considerable drift, notwithstanding which it is remarkable that the mercury in the barometer remained at 29.80 inches, without the alteration of a single hundredth part from ten P.M. on the 20th till four A.M. on the 22d, being an interval of thirty hours. Except the breeze above mentioned, which continued strong for four or five hours, the weather was fine during this interval, and remained so for several days afterwards. Wed. 20.

A deeper drift of snow had collected round the ships during the last week, and particularly at the time of the gales, than in the whole of the preceding part of the winter. On one side of the Hecla was a bank seven or eight feet deep, in which the men amused themselves by excavating houses, with large





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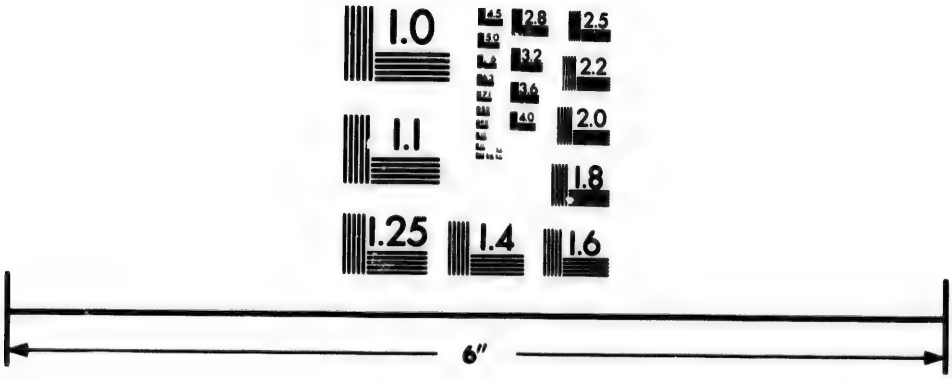

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1822. March. vaulted apartments like catacombs. The quantity of snow, however, around the ships was never so great here as at Melville Island, in consequence of the less frequent drifts, though its depth on shore and therefore the whole quantity that fell was greater.

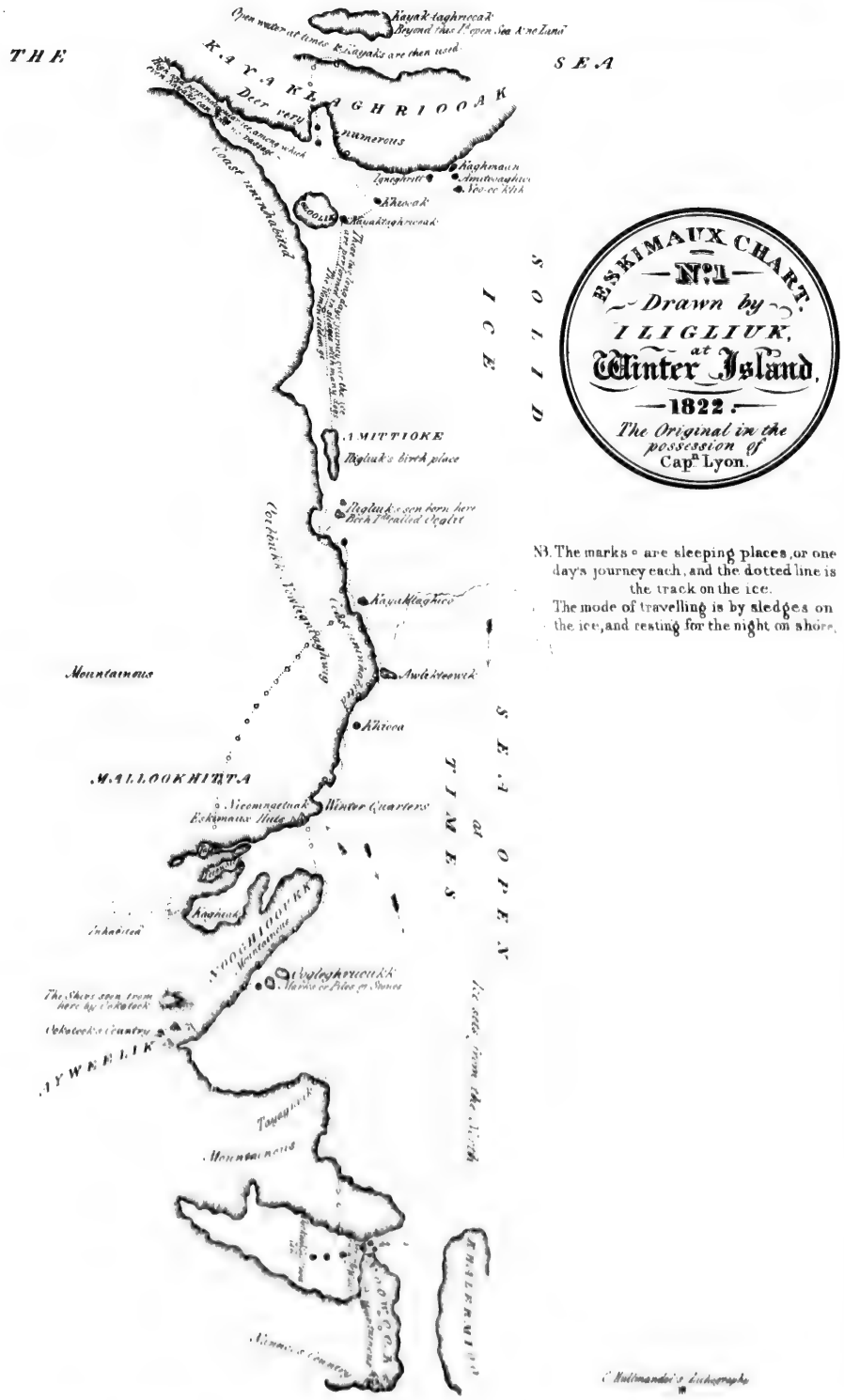
The weather continued very fine for several days about this period, the wind being from the north-west, and the thermometer from — 8° to — 24°.

Mon. 25. On the 25th some clear water opening now and then off the south-east point, I sent Mr. Ross in the small boat to endeavour to kill some dovekies, of which he procured one or two specimens. These birds and the ravens were the only ones that kept us company occasionally throughout the winter.

The endeavours we had lately been making to gain from the Esquimaux some knowledge of the geographical features of the land to the northward, had at length been crowned with even greater success than we had anticipated, and some information of a very gratifying and interesting nature thus obtained. I shall here, therefore, give some account of that information, and of the progressive steps by which it was communicated, which may, at the same time, serve to shew the kind and degree of dependence that is to be placed in geographical notices thus obtained.

The first attempt made in this way, was by placing several sheets of paper before Iligliuk, and roughly drawing on a large scale an outline of the land about Repulse Bay and Lyon Inlet, and terminating at our present winter-quarters. If information and not mere curiosity be the object, this in my opinion is an indispensable precaution; for that object can hardly be so well obtained by leaving a savage to puzzle his way over fifty leagues of coast already known, when by delineating it with tolerable accuracy, his conceptions, instead of being confused, may be assisted. Iligliuk was not long in comprehending what we desired, and with a pencil continued the outline, making the land trend as we supposed to the north-eastward, and giving the names of the principal places as she proceeded. The scale being large, it was necessary when she came to the end of one piece of paper to tack on another, till at length she had filled ten or twelve sheets, and had completely lost sight of Winter Island (called *Neyūning-Eit-dŭă)* at the other end of the table. The idea entertained from this first attempt was, that we should find the coast indented by several inlets and in some parts much loaded with ice, especially at one strait to the northward of her native island Amitioke, which seemed to lead in a direction very much to the westward.

Within a week after this, several other charts were drawn by the natives



ESKIMAUX CHART.
No. 1
Drawn by
ILIGLIUK,
at
Winter Island,
1822.
The Original in the possession of
Capn. Lyon.

NB. The marks ∘ are sleeping places, or one day's journey each, and the dotted line is the track on the ice.
The mode of travelling is by sledges on the ice, and resting for the night on shore.

in a similar way, principally by the desire of Captain Lyon and Mr. Griffiths, who took great pains to acquire information of this nature, and sent me copies of these productions. The coast was here delineated as before, on a very large scale, but much more in detail, many more islands, bays, and names being inserted. It was observable, however, that no two charts much resembled each other, and that the greater number of them still less resembled the truth in those parts of the coast with which we were well acquainted. The only one deserving further notice in this place was drawn by Iligliuk for Captain Lyon, of which an accurate reduction is here given, and marked No. 1., the scale being about one-twelfth of that of the original. 1822. March.

On an inspection of this curious chart, it will appear evident that, with respect to the *relative* geographical position of the lands beyond us, (which was in fact the only very interesting question we desired them to solve,) it was calculated to give us ideas which our subsequent experience proved to be erroneous; making, for instance, the direction nearly the same from Repulse Bay to Winter Island, as from the latter to Amitioke, though they are in fact exactly at right angles. Being extremely desirous of obtaining more certain information on this part of the subject, it occurred to me to attempt the thing with Iligliuk on a smaller scale, such as might enable her to keep in view at the same time every part of the coast to be delineated. This attempt was also much favoured by our having lately obtained the Esquimaux words for the four cardinal points of the horizon, which were, therefore, previously laid down by lines on the chart. Having, in addition to this, delineated the usual portion of the coast, and made Iligliuk "box the compass" repeatedly, so as to render her quite familiar with the exact relative position of the lands we had laid down, we desired her to complete the rest, and to do it *mikkee* (small), when, with a countenance of the most grave attention and peculiar intelligence, she drew the coast of the continent beyond her own country, as lying nearly north, instead of east, from Winter Island. The most important part still remained, and it would have amused an unconcerned looker-on to have observed the anxiety and suspense depicted on the countenances of *our* part of the group, till this was accomplished, for never were the tracings of a pencil watched with more eager solicitude. Our surprise and satisfaction may therefore, in some degree, be imagined when, without taking it from the paper, Iligliuk brought the

1822. March. continental coast short round to the westward, and afterwards to the S.S.W., so as to come within three or four days' journey of Repulse Bay. The country thus situated upon the shores of the Western or Polar Sea is called *Akkoölee*, and is inhabited by numerous Esquimaux; and half-way between that coast and Repulse Bay Iligliuk drew a lake of considerable size, having small streams running from it to the sea on each side. To this lake her countrymen are annually in the habit of resorting during the summer, and catch there large fish of the salmon kind, while on the banks are found abundance of rein-deer. To the westward of Akkoolee, as far as they can see from the hills, which she described as high ones, nothing can be distinguished but one wide-extended sea. Being desirous of seeing whether Iligliuk would interfere with Wager River, as we know it to exist, I requested her to continue the coast-line to the southward of Akkoolee, when she immediately dropped the pencil, and said she knew no more about it. A few days after this, Ewerat drew a chart exactly corresponding with Iligliuk's in all material points, and every subsequent conversation with these people served to confirm this interesting information. A copy of Iligliuk's second chart, being about half the size of the original, is here annexed, the unshaded parts of the coast being those previously laid down for her, and the rest her own performance.

The new and satisfactory prospect thus unexpectedly opened to us, of our soon rounding the north-eastern point of America, recalled to my mind two circumstances that had occurred during the examination of Lyon Inlet, in the preceding autumn. The first was that, on the 9th of September, when on the summit of the high hill which I ascended, I noticed a brightness in the western sky so much resembling ice-blink, that I remarked it to the men who were with me, and afterwards to Mr. Ross on my return to the tents. The second circumstance now alluded to is, that, from a still higher hill, to which I despatched Messrs. Ross and Bushnan on the 13th, they saw a great deal of water to the W.N.W., with islands and capes; but, as the sun had just set, they could make out nothing more. As we had already determined by the closest examination, that there was here no communication with it, and as no idea could be entertained of the sea being only at the distance of ten or twelve leagues in that direction, I came to the conclusion that it could only be a lake of larger dimensions than the numberless others with which this country is covered. I had now, however, not the smallest doubt that it

ESKIMAUX CHART.
No. 2
The shaded parts drawn by ILIGLIUK at Winter Island
1822.
The Original in the Possession of Capn. Parry.
KEI-YUK-TARRU-OKE
High land
Tide high but not very strong.
No Whales nor Walruses
No Land seen in this direction.
KEI-YUK-TARRU-OKE
High land
A long day's journey across the Strait
The Tide strong and high but no rocks.
IGLOOLIK
AMITIOKE
Iligliuk's Island (not high)
Small Bays or Inlets
High Land
Fish in this Bay or Inlet
Potstone here
Neyuk
Teisuksowak
Lake with Fish
Salt Water (Tarrioke)
High Coast
Arnaloca's Tent
Stream running to the Westward
No Land to the Westward seen from the Hills
Three days' Journey from Repulse Bay
Many Eskimaux
Large Lake of Fresh Water Fish and Deer
Keyuktalik
Potstone here
Stream running to the
Seals but no Walruses nor Whales
Asbestos found on low land
Musk Oxen
EIWILLIK
Asbestos here
MALLUKESITOKE
Neyuning Eitua or Winter Island
Line of Ice along which the Eskimaux travel in the Spring
SIADLERMIO
Nannew's Country
Noowook further south
C. Hullmandel's Lithography.

was the sea which our gentlemen had then seen, and that both this, and the blink observed by myself, might be considered as confirming very satisfactorily the accounts given by the Esquimaux. 1822. March.

The barometer rose to 30.41 inches in the night, being the *maximum* indication registered since the 18th of September preceding. It was so far, however, from being the precursor of any thing unusually fine in the weather, that it blew a fresh breeze from the W.N.W. on the 26th, which was followed by overcast weather and small snow. To this succeeded a gale from the northward, which came on with considerable violence on the 27th, and continued to blow incessantly during the two following days, accompanied by a high snow-drift. The inclemency of the weather preventing the Esquimaux from going out to fish, they were once more badly off for food and fuel. A general supply of bread-dust was therefore furnished them from the ships, which they now had learned to consider so much a thing of course, that few of them thought it necessary even to go through the forms of their accustomed *Coyĕnnă* (thanks). Siokobeut, alias the Commodore, was detected in stealing a piece of beef from the Hecla's quarter, placing his little boy Toonek to look out for any person coming. I do not know whether hunger may not be considered some excuse for this act of petty larceny, but at the time we thought it aggravated, in some degree, by their having just before been fed with bread-dust on board. Tues. 26. Wed. 27.

When the weather moderated, which was not till the night of the 29th, we found that the ice had once more separated in the offing, and had even made some encroachments into the bay, the open water being now within two hundred paces of the ships' sterns. It is certain indeed that, but for the numerous grounded masses which had fixed themselves round the shores of the bay, and which like so many piles held fast the floe into which we were frozen, we should long ere this time have been drifted out to sea by the total disruption of the ice from this part of the land. This observation is only meant to apply to a bay which, like our present one, is in the immediate neighbourhood of a part of the sea that, from some local cause, is frequently open during the winter, and where very high and rapid tides greatly favour the separation of ice from the shores. Where on the contrary the tides are small, there is reason to believe that a ship once frozen into a bay in these regions, however exposed it may be, may be just as secure during the winter as in the most sheltered harbour.

As a method, and the only one that occurred to me, of trying the average Sun. 31.

1822. March. depth of snow that had fallen at this period, I caused it to be accurately measured as it lay on the level surface of the ice in the bay in twenty-two different places, where there was no obstacle to create a drift. The mean depth thus obtained was four inches and a half, which, however, when compared with that on shore, even in parts the least likely to collect a drift, appeared too small by half to be taken as a measure of the actual quantity that had fallen. The fact seems to be that, while the irregularities of the surface on shore prevent the possibility of judging of this with any great accuracy, the smoothness and uniformity of the surface of the ice present an equal difficulty, though in a contrary way; a very moderate breeze being sufficient during some months of the winter to carry it from the place where it has fallen, unless it has time to consolidate itself before the coming on of a breeze strong enough to disturb it.

The appearance of the Aurora Borealis was less frequent during March than in the preceding winter months, in consequence of the increased duration of daylight at this period. Whatever slight variations might exist in these appearances, it still continued a matter of constant remark to us, that the phenomenon almost invariably commenced in the south-eastern quarter of the heavens; and it is perhaps worthy of notice that the same thing was observed by Crantz in Greenland*. The arch-like form assumed by the Aurora was also one of its almost invariable peculiarities; the legs of the arch being usually situated somewhere between the east and west points of the horizon, and almost always occupying the southern side of the heavens. The only instance of this phenomenon during the month of March, deserving particular description, occurred on the evening of the 30th, when it made its appearance as usual in the south-eastern horizon, from whence it soon diffused itself in a low but tolerably regular arch extending to the W.S.W. Again at times it altogether vanished, and then as suddenly re-appeared much in the same situation as before. We often fancied that this phenomenon exhibited a light of greater actual intensity when the moon was above the horizon than at other times, though its appearance was of course less splendid on that account. Whether this was in reality the case or not, we had no means of correctly judging; but some idea of its brightness may be formed from the circumstance of its being often very distinctly visible when the

* See Crantz, i. 48, whose very words would truly describe what we so frequently noticed during this winter.

moon was between her quarters and the full. The electrometer was tried during the continuance of this evening's Aurora, but no effect was perceptible either on that or a Kater's compass. 1822. April.

On the 2d of April a thin sheet of bay-ice several miles square had formed on the sea to the eastward and southward, where for two or three days past there had been a space of open water. This was occasioned more by the wind remaining very moderate, and the neap-tides occurring about this time, than from any great degree of cold, the thermometer seldom falling below — 6° or — 7°. The wind, however, settling in the south-east to-day, the main body of ice, which had been scarcely visible in the offing, soon began to move in-shore, forcing before it the young floe and squeezing it up into innumerable hummocks, which presently being cemented together by a fresh formation in their interstices, constituted an example of one of the ways in which these "hummocky floes" are produced, of which I have before so often had occasion to speak. We were always glad to see this squeezing process take place while the ice was still thin enough to admit of it; as it thus became compressed perhaps into one-fiftieth part of the compass that it would otherwise have occupied, and of course left so much the more open space upon the surface of the sea. The temperature of the water at the bottom in eight fathoms was to-day 28°, being the same as that of the surface. Tues. 2.

Early in the morning the Esquimaux had been observed in motion at the huts; and several sledges drawn by dogs and heavily laden went off to the westward. On going out to the village, we found one-half of the people had quitted their late habitations, taking with them every article of their property, and had gone over the ice, we knew not where, in quest of more abundant food. The wretched appearance which the interior of the huts now presented baffles all description. In each of the larger ones some of the apartments were either wholly or in part deserted, the very snow which composed the beds and fire-places having been turned up, that no article might be left behind. Even the bare walls, whose original colour was scarcely perceptible for lamp-black, blood, and other filth, were not left perfect, large holes having been made in the sides and roofs for the convenience of handing out the goods and chattels. The sight of a deserted habitation is at all times calculated to excite in the mind a sensation of dreariness and desolation, especially when we have lately seen it filled with cheerful inhabitants; but the feeling is even heightened rather than diminished when a small portion of these inhabitants remain behind to

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Winter Island, during the Month of *March*, 1822.

Day	Fahrenheit's Thermometer. Maximum.	Minimum.	Mean.	Mean Temperature of Lower Deck.	Barometer. Maximum.	Minimum.	Mean.	Prevailing Winds. Direction.	Velocity.	Prevailing Weather.
	°		°	°	inches.	inches.	inches.			
1	−11	−35	−24.25	53.0	29.90	29.83	29.868	West	fresh	fine
2	+ 2	10	3.37	53.6	29.85	29.24	29.535	ESE	strong	hazy and drift
3	− 6	19	14.50	54.5	29.52	29.27	29.390	North	strong	hazy and drift
4	20	29	25.37	56.0	29.67	29.58	29.633	NW	light	clear
5	22	32	25.92	53.5	29.82	29.63	29.693	NNW	light	clear
6	17	24	19.83	56.5	30.15	29.87	30.047	NW	light	clear
7	+ 2	11	4.83	54.0	30.31	30.17	30.258	SW	strong	cloudy and drift
8	11	+ 2	+ 7.33	58.2	30.31	29.80	30.067	SW	fresh	cloudy
9	13	− 5	7.00	61.2	29.72	29.45	29.508	SSW round by W to NW	fresh	hazy and snow
10	− 8	13	−10.62	60.0	29.92	29.50	29.758	NW	fresh	cloudy
11	8	22	13.71	58.0	30.00	29.94	29.973	NNW	light	cloudy
12	8	24	15.67	60.0	30.07	29.94	30.017	NW	modt.	clear
13	+ 5	11	0.17	61.2	29.90	29.26	29.575	WbN	squalls at times	cloudy
14	5	9½	1.37	62.7	29.47	29.14	29.348	North	light	fine
15	2	32	12.12	62.2	28.97	28.80	28.850	NNW	strong	hazy and drift
16	−20	20	23.75	60.5	29.15	28.83	28.960	NW	strong	hazy and much drift
17	10	30	17.75	58.0	29.27	29.16	29.205	WNW	squalls at times	cloudy
18	13	25	18.00	56.5	29.84	29.32	29.598	NW	modt.	clear
19	13	27	21.25	57.0	30.00	29.86	29.928	NW	light	fine
20	15	26	19.42	59.5	29.96	29.80	29.853	WNW	light	fine
21	6	18	12.42	57.5	29.80	29.80	29.800	WNW	fresh and squalls	hazy
22	12	24	18.00	59.2	29.94	29.80	29.872	WNW	light	fine
23	11	23	16.96	59.0	30.06	29.95	29.998	NW	light	fine
24	8	21	14.17	57.3	30.22	30.07	30.144	North	light	cloudy and small snow
25	12	25	18.54	58.0	30.41	30.22	30.307	WNW	light	fine
26	1	20	9.62	56.5	30.41	30.24	30.333	WNW	modt.	fine
27	4	9	6.12	58.7	30.20	29.64	29.957	North	light	hazy and small snow
28	6	10	7.92	57.5	29.57	29.05	29.233	NNE	strong	hazy and drift
29	+ 6	2	+ 2.75	59.7	29.10	29.02	29.048	NNE	strong	much drift
30	7	13	− 0.38	60.2	29.33	29.12	29.230	NbE	modt.	hazy and drift
31	7	14	2.00	63.5	29.35	29.25	29.307	NW	light	cloudy
	+13	−35	−11.64	58.2	30.41	28.80	29.688			

endure the wretchedness which such a scene exhibits. This was now the case at the village where, though the remaining tenants of each hut had combined to occupy one of the apartments, a great part of the bed-places were still bare and the wind and drift blowing in through the holes which they had not yet taken the trouble to stop up. The old man Hikkeiera and his wife occupied a hut by themselves, without any lamp or a single ounce of meat belonging to them; while three small skins on which the former was lying, were all that they possessed in the way of blankets. Upon the whole, I never beheld a more miserable spectacle, and it seemed a charity to hope that a violent and constant cough with which the old man was afflicted would speedily combine with his age and infirmities to release him from his present sufferings. Yet in the midst of all this he was even cheerful, nor was there a gloomy countenance to be seen at the village. Almost all the men were out; and some of them had been led so far to sea upon the floating and detached masses of ice in pursuit of walruses, that Captain Lyon, who observed their situation from the ships, had it in contemplation, in the course of the evening, to launch one of the small boats to go to their assistance. They seemed however to entertain no apprehensions themselves, from a confidence perhaps that the south-east wind might be depended upon for keeping the ice close home upon the shore. It is certain, notwithstanding, that no degree of precaution, nor any knowledge of the winds and tides, can render this otherwise than a most perilous mode of obtaining subsistence; and it was impossible therefore not to admire the fearlessness as well as dexterity with which the Esquimaux invariably pursued it. 1822. April.

Having distributed some bread-dust among the women, we told old Illumea and her daughter Togolat that we proposed taking up our lodging in their hut for the night. It is a remarkable trait in the character of these people, that they always thank you heartily for this, as well as for eating any of their meat; but both board and lodging may be given to *them* without receiving the slightest acknowledgment either in word or deed. As it was late before the men returned, I asked Togolat to get the rest of the women to perform some of their games, with the hope of seeing something that was new. I had scarcely time to make the proposal when she darted out of the hut, and quickly brought every female that was left at the village, not excepting even the oldest of them, who joined in the performance with the same alacrity as the rest. I could however only persuade them to go through a tedious song we had often before heard, which was now indeed somewhat

1822. April.

modified by their insisting on our taking our turns in the performance, all which did not fail to create among them never-ceasing merriment and laughter. Neither their want of food and fuel, nor the uncertain prospect of obtaining any that night, were sufficient to deprive these poor creatures of that cheerfulness and good-humour which it seems at all times their peculiar happiness to enjoy.

The night proved very thick with small snow, and as disagreeable and dangerous for people adrift upon floating ice as can well be imagined. If the women however gave their husbands a thought or spoke of them to us, it was only to express a very sincere hope that some good news might shortly arrive of their success. Our singing-party had not long been broken up when it was suddenly announced by one of the children, the usual heralds on such occasions, that the men had killed something on the ice. The only two men who were at home instantly scrambled on their outer jackets, harnessed their dogs, and set off to assist their companions in bringing home the game, while the women remained for an hour in anxious suspense as to the extent of their husbands' success. At length one of the men arrived with the positive intelligence of two walruses having been taken, and brought with him a portion of these huge animals as large as he could drag over the snow. If the women were only cheerful before, they were now absolutely frantic. A general shout of joy instantly re-echoed through the village; they ran into each other's huts to communicate the welcome intelligence, and actually hugged one another in an ecstacy of delight by way of congratulation. One of them *Arnalōōă*, a pretty young woman of nineteen or twenty, knowing that a dog belonging to her husband was still at the huts, and that there was no man to take him down on the ice, ran out instantly to perform that office; and with a hardiness not to be surpassed by any of the men returned, after two hours' absence, with her load of walrus-flesh, and without even the hood thrown over her head to shelter her from the inclemency of the weather.

When the first burst of joy had at length subsided, the women crept one by one into the apartment where the first portion of the sea-horses had been conveyed, and which is always that of one of the men immediately concerned in the killing of them. Here they obtained blubber enough to set all their lamps alight, besides a few scraps of meat for their children and themselves. From this time, which was nine o'clock, till past midnight, fresh cargoes were continually arriving; the principal part being brought in by the dogs, and

the rest by the men, who, tying the thong which held it round their waist, dragged in each his separate portion. Before the whole was brought in however, some of them went out three times to the scene of action though the distance was a mile and a half. 1822. April.

Every lamp now swimming with oil, the huts exhibited a blaze of light, and never was there a scene of more joyous festivity than while the operation of cutting up the walruses continued. I took the opportunity which their present good humour afforded, to obtain a perfect head and tusks of one of these animals, which we had not been able to do before; and indeed, so much were their hearts opened by the scene of abundance before them, that I believe they would have given us any thing we asked for. This disposition was considerably increased also by their taking it into their heads, that their success was in some way or other connected with, or even owing to, our having taken up our night's lodging at the huts. Wed. 3d.

After viewing all this festivity for some time, I felt disposed to rest; and wrapping myself up in my fur coat, lay down on one of the beds which Illumea had given up for our accommodation, as well as her *keïpik*, or large deer-skin blanket, which she rolled up for my pillow. The poor old woman herself sat up by her lamp, and in that posture seemed perfectly well satisfied to doze away the night. The singularity of my night's lodging made me awake several times, when I always found some of the Esquimaux eating, though after we lay down they kept quite quiet for fear of disturbing us. Mr. Halse, who was still more wakeful, told me that some of them were incessantly employed in this manner for more than three hours. Indeed the quantity of meat that they thus contrive to get rid of is almost beyond belief.

Having at length enjoyed a sound nap, I found on awaking about five o'clock that the men were already up, and had gone out to renew their labours on the ice, so that several of them could not have rested more than two or three hours. This circumstance served to correct a notion we had entertained, that when once abundantly supplied with food they took no pains to obtain more till want began again to stare them in the face. It was now more pleasing to be assured that, even in the midst of plenty, they did not indolently give themselves up to repose, but were willing to take advantage of every favourable opportunity of increasing their store. It is certain indeed that were these people more provident, (or in other words less gluttonous, for they do not waste much,) they might never know what it is to

1822. April. want provisions, even during the most inclement part of the year. The state of the ice was to-day very unfavourable for their purpose, being broken into pieces so small that they could scarcely venture to walk upon it.

Thur. 4. The phenomenon frequently observed at Melville Island in the spring, of the white clouds assuming the form of two continuous arches, with their legs meeting near the east and west horizons, was finely displayed on the 4th, the height of the arches in the centre, from the north and south horizons, being from 50° to 70°. It was now more than a month since our washed clothes had in part been dried by exposure to the sun's rays under the ship's stern, which however it required two days of fine weather to effect. As this space was small, and it was of importance to get rid as soon as possible of the drying process on the lower-deck, we now built upon the ice a thick wall of snow, seven feet high, thirty yards in length, and exactly facing the south. Against this, though not touching it, was suspended a long black-painted cloth, which absorbed so much heat from the sun's rays that the clothes hung before it on lines were dried in a few hours, though the thermometer in the shade was only from 5° to 9° above *zero*.

Frid. 5. The morning of the 5th proved favourable for a journey I had in contemplation to the distant huts, to which Iligliuk, who had come to Winter Island the day before, promised to be my guide. At six o'clock I set out, accompanied by Mr. Bushnan and two of the men, carrying with us a supply of bread-dust besides our own provisions and blankets. As the distance was too great for her son Sioutkuk to walk, we were uncertain till the moment of setting out how this was to be managed, there being no sledge at hand for the purpose. We found however that a man, whom we had observed for some time at work among the hummocks of ice upon the beach, had been employed in cutting out of that abundant material a neat and serviceable little sledge, hollowed like a bowl or tray out of a solid block, and smoothly rounded at the bottom. The thong to which the dogs were attached was secured to a groove cut round its upper edge; and the young seal-catcher, seated in this simple vehicle, was dragged along with great convenience and comfort.

The ice over which we travelled was a level floe that had never suffered disturbance since its first formation in the autumn, and with not more than an inch and a half of snow upon it. The path being distinctly marked out by the people, sledges, and dogs, that had before travelled upon it, one might,

[illegible]

[illegible] least possible inconvenience.

[illegible] What gave [illegible]

[illegible] and a little [illegible] minds an idea of [illegible] an Esquimaux but capable of exciting [illegible]

[illegible] of the men, who came in towards evening [illegible] their labour, we were once more greeted [illegible] who was a priest, [illegible]

[illegible]

without any great stretch of the imagination, have almost fancied it a road leading over a level and extensive heath towards a more civilized and substantial village than that which we were now approaching. Iligliuk walked as nimbly as the best of us; and after two hours and a half brisk travelling, we arrived at the huts, and were received by the women (for all the men were absent) with every expression of kindness and welcome. Each was desirous of affording us lodging, and we had speedily arranged matters so as to put them to the least possible inconvenience. 1822. April.

These huts, four in number, were in the mode of their construction exact counterparts of those at Winter Island on our first visit, but being now new and clean, presented a striking contrast with the latter, in their present disordered and filthy state. What gave a peculiarity as well as beauty also to the interior appearance of these habitations, was their being situated on the ice, which being cleared of the snow, presented a flooring of that splendid blue which is, perhaps, one of the richest colours that nature affords. A seal or two having been lately procured, every lamp was now blazing, and every *ōōtkŏoseĕk* smoking with a hot mess which, together with the friendly reception we experienced and a little warmth and fatigue from travelling, combined in conveying to our minds an idea of comfort which we could scarcely believe an Esquimaux hut capable of exciting.

On the arrival of the men, who came in towards evening, with two seals as the reward of their labour, we were once more greeted and welcomed. Arnaneelia in particular, who was a quiet, obliging, and even amiable man, was delighted to find that my quarters were to be in his apartment, where *Anēĕtka*, his wife, a young woman of about twenty-three, had already arranged every thing for my accommodation; and both these poor people now vied with each other in their attention to my comfort. The other two apartments of the same hut were occupied by Kaoongut and Okotook, with their respective wives and families; it being the constant custom of these people thus to unite in family groups, whenever the nature of their habitations will allow it. Mr. Bushnan being established with Okotook, and the two men with Kaoongut, we were thus all comfortably lodged under the same roof.

Toolooak having been concerned in killing one of the seals just brought in, it fell to his mother's lot to dissect it, the *neitiek* being the only animal which the women are permitted to cut up. We had therefore an opportunity of seeing this filthy operation once more performed, and entirely by the

1822. April. old lady herself, who was soon up to her elbows in blood and oil. Before a knife is put into the animal, as it lies on its back, they pour a little water into its mouth, and touch each flipper and the middle of the belly with a little lamp-black and oil taken from the under part of the lamp. What benefit was expected from this preparatory ceremony we could not learn, but it was done with a degree of superstitious care and seriousness that bespoke its indispensable importance. The boys came eagerly into the hut as usual, and held out their foreheads for the old woman to stick the charms upon them; and it was not till now that we learned from Iligliuk the efficacy of this very useful custom. As soon as this dirty operation was at an end, during which the numerous by-standers amused themselves in chewing the intestines of the seal, the strangers retired to their own huts, each bearing a small portion of the flesh and blubber, while our hosts enjoyed a hearty meal of boiled meat and hot gravy soup. Young Sioutkuk ate at least three pounds of solid meat in the first three hours after our arrival at the huts, besides a tolerable proportion of soup, all which his mother gave him whenever he asked it without the smallest remark of any kind. We now found that they depended on catching seals alone for their subsistence, there being no walruses in this neighbourhood. As they were several miles from any open water, their mode of killing them was entirely confined to watching for the animals coming up in the holes they make through the ice.

In the course of the evening, our conversation happened to turn on the Indians, a people whom none of these Esquimaux had ever seen; but with whose ferocity and decided hostility to their own nation they seemed to be well acquainted. They described also their peculiar manner of paddling their canoes, and were aware that they made use of the kind of snow-shoes which we shewed them. When I related to them as well as I was able the massacre of the Esquimaux recorded by Hearne, and gave them to understand that the Indians spared neither sex nor age, it seemed to chill them with horror, and I was almost sorry that I had told them the story.

Sat. 6. The weather proved very thick on the 6th, with a heavy fall of snow, the wind still blowing however from the N.N.W., and increasing almost to a gale in the course of the day; so that when we set out on our return we could scarcely distinguish an object an hundred yards before us. Toolooak was deputed to accompany us with a sledge for carrying our baggage; and after some difficulty we contrived to get sight of the island, and arrived on board

before noon. I found from Captain Lyon that nothing worthy of notice had occurred during my absence. The temperature of the atmosphere seemed now to have taken a favourable turn, the thermometer keeping up to *zero*, or above it, even with a northerly or north-west wind: we were therefore enabled for the first time permanently to reduce the consumption of coals in each ship, the lower-decks being now much too hot when the winter's proportion was expended. 1822. April.

On the 7th, which was Easter-Sunday, a dinner of English beef was directed to be served, being part of that which was killed when the Nautilus left us. As we were apprehensive that this meat might be injured as the warmer weather advanced, we issued what remained in the course of the spring, except enough for one more Christmas dinner. Sun. 7.

On the morning of the 8th, the thermometer was observed to fall from 6° to 2° immediately on a partial clearing of the atmosphere, and again to rise, on its becoming overcast, to 10°, the wind continuing the same both in direction and strength. It shifted in the evening to the eastward, accompanied by a fall of small snow, which continued the whole of the two following days. Mon. 8.

On the 11th a difference was observed in the indications of the two thermometers on the ice, the reverse of that which generally took place. Thur. 11.

	North Thermometer.	South Thermometer.
	°	°
At noon	20	11
„ 1 P.M.	23	13
„ 2 P.M.	13.5	13

The wind was light from the W.S.W. during this time, and though it blew rather on the south than on the north side of the post, this seemed by no means sufficient to account for the difference, as even a strong breeze does not usually produce such an effect on a thermometer in the shade, though very sensible to the feelings. There was no snow on either of the bulbs, except a little which continued to fall, and the sun was peeping out at times during the interval. A similar difference was again noticed a day or two after.

h. m.	North Thermometer.	South Thermometer.
	°	°
At 0 15 P.M.	30	18
„ 0 30 „	24	21
„ 2 0 „	28	14
„ 6 0 „	10	4

The wind was very light from the east and south-east, with small snow, and

1822. April. the weather quite overcast, except towards six P.M. For two hours in the forenoon, when the sun made an effort to appear, a parhelion, tinged with the prismatic colours, appeared on each side of it; and nearer to that object by 30′ was a halo of 22° 35′ radius, also coloured, the red tint being as usual next the sun. An instance or two of the parhelion being situated without the circle have been mentioned * as occurring at Melville Island, but the phenomenon appears to be a rare one.

We were now glad to begin making some shew of re-equipping the ships for sea; for though this was a business that might if necessary have been very well accomplished in two or three weeks, it was better to employ the men in occupations having an evident and determinate object, than in those less obviously useful ones to which it was necessary to resort during the winter. We therefore brought down some of the boats to the ships to repair, put up the forge on the ice, and built a snow-house over it, and set about various other jobs, which made the neighbourhood of the ships assume a busy and bustling appearance.

I had to-day a visit from Okotook and Iligliuk, who, with their son, came in upon their sledge from the distant huts. Being desirous of entertaining them well, in return for their late hospitality, we provided abundance to eat, and shewed them every thing about the ship that we thought likely to amuse them. Of all the wonders they had ever witnessed on board, there was nothing which seemed to impress them so strongly with a sense of our superiority as the forge, and the work which the armourer performed with it. The welding of two pieces of iron especially excited their admiration, and I never saw Iligliuk express so much astonishment at any thing before. Even in this her superior good sense was observable, for it was evident that the utility of what she saw going on was what forced itself upon her mind; and she watched every stroke of the hammer and each blast of the bellows with extreme eagerness, while numbers of the other Esquimaux looked stupidly on, without expressing the smallest curiosity or interest in the operation, except by desiring to have some spear-heads fashioned out by this means. Iligliuk was always very much entertained also by pictures having any relation to the Esquimaux in other parts, and derived great entertainment from a description of any difference in their clothes, utensils, or weapons. Of these the sail in an Esquimaux boat

* Journal of the Voyage of 1819-20, p. 172.

seemed particularly to attract her notice; but in general she had no inclination to admit the inferiority of her own tribe to any other. She was always extremely inquisitive about her own sex, whether *Innuees* * or *Kabloonas*, listening with eager attention to any account of their dress or occupations, and in common, I believe, with all the rest of the Esquimaux, wondered how we came to travel to their country without our wives. The assurance that many among us were not married, they received with evident incredulity. 1822. April.

We to-day cleared away the snow that had been banked against the ships' sides, the use of which was proved a day or two after by the frost making a large rent in the Fury's rudder and another in her stem. This covering therefore should not have been removed so early. Mr. Fisher having now concluded most of the observations and experiments for which the house was built, it was taken down and the materials brought on board; the transit-instrument and meridian-mark remaining as before, to enable him to commence a series of observations for the pendulum, whenever the weather should become warm enough for the clock to be set up in a tent. The continuance of comparatively temperate weather, though it was much colder than we had expected at this season, induced us also to begin clearing and turning up a small piece of ground as a garden for each ship, in which we hoped to produce something in the way of vegetable diet before our departure, especially as we were now supplied with several glazed frames for hot-beds. There was not at this time a bare spot of ground anywhere to be seen, so that we had to clear away the snow, in some places two or three feet deep, in order to find a space that would suit our purpose; and it was then so full of stones and frozen ground that it required great labour even to prepare mould enough for the frames. These were however completed in a few days and sown with mustard, cress, and pease, the latter having been found to produce the greatest quantity of green substance at Melville Island.

On the 13th a number of the natives from the Winter Island huts formed a second detachment, and set off for the other village. They carried their goods on sledges as before, even to the exclusion of poor old Hikkeiera, whom some of our gentlemen overtook crawling after his companions with a stick, and who, but for their timely and humane remonstrances, might that day have finished his pilgrimage on earth. They insisted however on his being placed on one of the sledges, which was accordingly Sat. 13.

* Esquimaux.

1822. April. complied with; but, on their arrival at the village, his companions left him lying there till their huts were built. All the Esquimaux pressed our gentlemen very strongly to sleep at the village, but one of the women gave Mr. Bird an indifferent specimen of her hospitality by picking his pocket of a handkerchief, though not so dexterously as to escape detection. The few who visited the ships to-day told us, that they were all about to leave Winter Island on the morrow; and Okotook and Iligliuk, who had not yet returned, came on board among the rest to pay a last visit. I gave the former a large piece of oak-wood for a bow and two arrows, a second iron spear-head, and various other useful articles, to add to the stock of wealth he had from time to time received from us. As these good folks found themselves perfectly at home in my cabin, I was usually in the habit of continuing my occupations when they were there, without being disturbed by them. Being now engaged in writing, my attention was unexpectedly directed towards them by Iligliuk's suddenly starting from her seat, moving quickly towards the door, and without saying a word, either to me or any of the officers present, hastening directly on deck. Okotook indeed, as he followed her out of the cabin, turned round and said "Good-bye," of which expression he had learned the meaning, and then, without giving us time to return the compliment, they both hurried out of the ship, leaving us in some astonishment at this singular leave-taking which we then supposed to be the last.

Mon. 15. A case or two of inflammation in the eyes, producing partial "snow-blindness," having lately occurred, I directed a quarter of a yard of crape, supplied for that purpose, to be furnished to each man, to be worn as a short veil over the eyes. At the same time were issued to each individual in the Expedition a pair of boots and warm stockings, being part of a supply of warm clothing with which we had been furnished, to be served *gratis* at my discretion. This liberal addition to the men's clothing was particularly acceptable at this time, as we were shortly about to commence cutting the ice round the ships, previous to making any alteration in the stowage of their holds. While preparations were making for this work, it was suggested to me that, strongly as the ice was now cemented to the ships' sides, we might, by cutting a trench round their bows to the depth of three or four feet, (taking care not to admit the water,) have an opportunity of examining the planks, and caulking the seams where they were most likely to require it. This plan was adopted, and was found completely to answer the purpose for which it was intended

On the morning of the 16th, the weather being extremely fine, Captain Lyon left the ships, accompanied by Lieutenant Palmer and the rest of his travelling party, and equipped for remaining the night, with the intention of effecting the object which on his former excursion the inclemency of the weather had rendered impracticable. We were glad to find that a very moderate breeze from the north-west served once more to separate the ice, which had for some days past been attached to the land, and to send it off to a considerable distance. The thermometer being from 3° to 9° during the day, very little frost-smoke rose from the clear water. Some hard well-defined clouds, being nearly the first we had seen this season, appeared for a short time to-day, and were welcomed as the harbingers of returning moisture in the atmosphere. The Aurora Borealis was seen at night to the southward, and extending at times in a broad band of light across the heavens, but at a low altitude from east to west. 1822. April. Tues. 16.

Early on the morning of the 17th the thermometer fell to −12°, being the lowest temperature we had now experienced for some time. At ten A.M. Captain Lyon and his party returned, having walked some distance beyond the spot where they had before been detained, and determined which must be the route to be pursued whenever they set out on their intended journey. They found the passage between the island and the continent to be from one to two miles in breadth; and that the hummocky nature of the ice would not, as we had hoped, admit of their cutting off any of the distance to be travelled between the island and the north-eastern point of land. Wed. 17.

We could now begin to perceive, from day to day, that the snow on shore was diminishing. How slow this process was may however be understood by the fact, that it was necessary to make a mark on some stone to be assured that it was thus receding. Our snow-wall had indeed settled down nearly a foot by the gradual diminution of the blocks of which it was composed; but the thawing had been artificially assisted by the black cloth hung against it. Five ravens were seen to-day all quite black; four of them were flying in pairs. Thur. 18.

On the 19th the wind veered by north to east and south-east, and towards evening a good deal of snow fell of a softer and larger kind than we had yet seen this year. In the afternoon, before the snow came on, the south thermometer, exposed to the faint rays of the sun, stood for a short time as high as 56°, that in the shade being at 14½°, but a light breeze springing up immediately brought the two thermometers to nearly the same low tempe- Frid. 19.

1822. April. rature. This effect was invariably produced by the wind suddenly blowing on a thermometer, when the mercury had been considerably raised by
Sat. 20. exposure to the sun's rays. On the 20th the wind blew fresh from the north-east, which only requires to be noticed because, for the last fortnight, we had scarcely experienced a breeze, which in the language of a sea-log had sufficient strength to be called "moderate." On the 21st Mr. Bird saw a flock of seven birds, which he took to be grouse.

Mon. 22. On the 22d a number of the Esquimaux came to the ships with a sledge, and among the rest my late host Arnaneelia and his wife, the latter having the front of her jacket adorned with numberless strings of beads that we had given her, arranged with exact uniformity, to which, in the fashion of their dresses and the disposition of their ornaments, these people always rigidly adhere. Aneetka had scarcely reached the cabin when she produced a little ivory comb and a pair of handsome mittens, which she presented to Mr. Edwards, at the same time thanking him for the attention he had shewn her on an occasion when she had been taken in a fit alongside the Fury, from which she was recovered by bleeding. This expression of gratitude, in which she was heartily joined by her husband, was extremely gratifying to us; as it served, in some degree, to redeem these people in our estimation from the imputation of ingratitude, which is indeed one of their greatest failings. They stated having seen two rein-deer the preceding day going over the ice to the main land. They spoke of this with great pleasure; and we were ourselves not displeased with the prospect of changing our diet for a little venison. They now became extremely urgent with us for wood to make bows and arrows, most of their own having, with the childishness that accompanied their first barterings, been parted with to our officers and men. Having several broken oars which could be turned to little or no account on board, we were enabled, at a small expense of useful stores, to furnish them very abundantly with wood for this purpose. Arnaneelia also informed us that Okotook, who had been unwell for some days, was now much worse, and seemed, as he described it, to be labouring under a violent pulmonary complaint. On the circumstance being mentioned to Mr. Skeoch, he kindly volunteered to go to the village, and accordingly took his seat on the sledge accompanied also by Mr. Sherer. They carried with them a quantity of bread-dust to be distributed among the Esquimaux at the huts, their success in seal catching having lately been indifferent.

On the 23d, being St. George's day, which is commanded to be celebrated as the anniversary of His Majesty's birth-day, we commemorated that event in the best manner our situation would permit, by dressing the ships in flags at the mast-heads and making a certain addition to the allowance of meat and spirits to the ships' companies. In the course of the afternoon Mr. Skeoch returned from the huts, having left Okotook somewhat relieved by a copious bleeding, but still labouring under a violent inflammatory complaint, requiring more comfort and attention than the huts were capable of affording. Mr. Skeoch said the Esquimaux had received him very kindly, and expressed many thanks for his assistance. 1822. April. Tues. 23.

In digging up the piece of ground for our garden, we found an incredible quantity of bones scattered about and concealed under the little soil there was. They were principally those of walruses and seals, and had evidently been left a long time before by Esquimaux, in the course of their wandering visits to the island; being gradually covered by the vegetable mould formed upon the spot which they helped to fertilize. Afterwards, when the land became more clear of snow, this was found to be the case to a much greater extent, every spot of ground upon the south-east point, which was not absolutely a rock, being covered with these relics. Some graves were also discovered, in one of which were a human skull apparently a hundred years buried, and some pieces of wood that had probably been parts of spears or arrows almost mouldered to dust. Knowing as we do the antiseptic properties of this climate, animal or vegetable substances in this state of decay convey to the mind an idea of much greater age than they would in any other part of the world.

With a light southerly breeze to-day the south thermometer stood at +12°, and the north at +23°. Besides the former instances of this difference which I have already mentioned, several other though less striking ones, occurred in the course of the spring, for which a light breeze blowing on the thermometer did not seem satisfactorily to account. Three pair of grouse were seen by our gentlemen to-day in the course of their walks, so that their return and that of the deer seem to have been well marked at this period.

A number of Esquimaux came to the ships on the 25th, notwithstanding a strong breeze from the S.W.b.W., with a considerable snow-drift. From these people we learned that Okotook's complaint had increased since Mr. Skeoch's visit, and that he was now extremely ill. Mr. Bushnan immediately Thur. 25.

1822. April. offered to go to the huts for the purpose of bringing him on board, where, by Mr. Edwards's kind attentions, and the enjoyment of warmth and dryness, we hoped soon to recover him. Mr. Bushnan therefore without waiting for the return of the sledges set out for the village at an early hour in the forenoon, accompanied by the serjeant of marines. At eleven at night our party returned on board, bringing on a sledge Okotook, Iligliuk, and their son. That Iligliuk would accompany her husband I of course took for granted and wished; but as the boy could do us no good, and was moreover a desperate eater, I had desired Mr. Bushnan to try whether a slight objection to his being of the party would induce Okotook to leave him with his other relations. This he had cautiously done; but the instant the proposal was made, Okotook, without any remark, began to take off the clothes he had himself just dressed in to set out. No further objection being made, however, he again prepared for the journey, Iligliuk assisting him with the most attentive solicitude. Before the invalid was suffered to leave his apartment, some of the by-standers sent for Ewerat, now better known to our people by the undignified appellation of "the Conjuror." Ewerat, on this occasion, maintained a degree of gravity and reserve calculated to inspire somewhat more respect than we had hitherto been disposed to entertain for him in that capacity. Placing himself at the door of the apartment opposite Okotook, who was still seated on the bed, he held both his thumbs in his mouth, keeping up a silent but solemn converse with his *toorngow**, the object of which was, as Mr. Bushnan presently afterwards found, to inquire into the efficacy and propriety of the sick man's removal. Presently he began to utter a variety of confused and inarticulate sounds; and it being at length understood that a favourable answer had been given, Okotook was carried out and placed on the sledge, Ewerat still mumbling his thumbs and muttering his incantations as before. When the party took their leave, there were a great many doleful faces among those that remained behind; and Mr. Bushnan said that the whole scene more resembled the preparations for a funeral than the mere removal of a sick man. When the sledge moved on, Ewerat was the only one who had not a "Good-bye!" ready, he being as seriously engaged as at first, and continuing so as long as our people could observe him.

Okotook was extremely ill on his arrival, having been three hours on the

* Familiar spirit.

sledge, and Iligliuk, who, as Mr. Bushnan told me, had scarcely taken her eyes off her husband's face the whole time, seemed almost worn out with fatigue and anxiety. A bed of wolf-skins being prepared for him, Okotook was soon placed upon it, and such remedies applied as Mr. Edwards judged necessary for his complaint, which was inflammation of the lungs to a degree that, if left to itself, or even to Ewerat, would soon have proved fatal, or at best have terminated in consumption. 1822. April.

On the 26th, a south-east wind brought a heavy fall of snow in flakes much larger than before. The thermometers on the ice at noon stood at 23° in both aspects. We heard from Illumea, who came to see her son Okotook, that a part of the natives had gone still farther to the westward upon the ice, one spot not affording sufficient subsistence for the whole of them. Our patient felt much the better for a comfortable night's lodging, and now submitted with great patience to the application of a blister, though I believe his confidence in our mode of cure was afterwards shaken for a time by the pain which it occasioned. Both he and Iligliuk, however, seemed very sensibly to feel the comforts and advantages of their present quarters; and a "coyenna" (thanks) now and then fell from their lips. Nothing could exceed the attention which the latter paid to her husband; she kept her eyes almost constantly fixed upon him, and seemed anxious to anticipate every want. Frid. 26.

One of Okotook's brothers had arrived from the huts, bringing with him some walrus-flesh to tempt the appetite of the invalid, whose stomach, however, very fortunately for his complaint, was not disposed to this kind of delicacy. When his brother was about to return, Okotook took it into his head to send his son away with him, probably because he heard they had the day before killed two seals, which afforded better feeding than we had to give him: be this as it may, we were not sorry that he went, and the boy himself seemed no less pleased; for without playfellows or amusement of any kind, his time hung very heavily on his hands while he remained on board. It was amusing to see Okotook take a dose of physic for the first time in his life to-day. He knew its taste was not pleasant, but this was certainly not all that he dreaded; for before he put the cup to his lips with one hand, he held on by his wife with the other, and she by him with both hers, as though they expected an explosion, or some such catastrophe, as the immediate effect of the potion; nor did he venture to relinquish his hold, till the taste began to leave his mouth. The quantity of water which he drank in the course of

1822. April. the four and twenty hours is beyond conception; and the cabin fire could scarcely, by the melting of snow, furnish enough for their consumption. These people are extremely particular as to the purity of the water they drink. Some that had been melted in our steamer, and which I thought very good, neither of them would touch, or at least always spat out again. If the water was much above the temperature of 32°, they also disliked it, and immediately put snow into it to cool it down. Iligliuk, who came on board with one side of her hair loose, loosened the other also to-day, in consequence of her fancying Okotook worse, though it was only the annoyance of the blister that made him uneasy; for even in this sequestered corner of the globe, dishevelled locks bespeak mourning. It was not however with her the mere semblance of grief, for she was really much distressed throughout the day, all our endeavours not availing to make her understand how one pain was to be removed by inflicting another.

Sat. 27. The wind still continuing to the southward and eastward, and the weather extremely mild, on the 27th, pools of water were, by the melting of the snow, formed on our upper deck. The northern thermometer stood as high as 32½° at two P.M., being the first instance this season of its rising above the freezing point in the shade. The first snow-bunting was also seen to-day. The mildness of the atmosphere did not long continue, for the wind backing

Sun. 28. to the W.N.W. on the 28th, the thermometer gradually fell till it had reached *zero* at midnight, and —6° soon after. The westerly wind, as usual, caused a great deal of open water in the offing, within a few hours after its shifting to that quarter. Another snow-bunting or two were seen on the 29th, and these little birds increased almost daily in numbers from this time. Snow fell

Mon. 29. very thick on the 29th, and it was generally remarked that we had more of it about this period than during the whole of the winter-months. Our garden-plots, from which two or three feet of snow had at first been removed, were now more deeply covered by the fall of a single day. I may here notice that our standing rigging did not slacken during any part of this winter as at Melville Island; neither on the other hand did it tighten so as in the slightest degree to injure the rope, the hounds of the masts, or any of the iron work of the dead-eyes.

Captain Lyon being desirous of having some little clothes made as models of the Esquimaux costume, and thinking Iligliuk's present leisure afforded her a good opportunity of making them, had yesterday obtained her promise that she would do so. Okotook being now very much better, and she having

herself resumed her usual gaiety in consequence, I pressed her to commence her work and placed the skins before her, when she said that she could not do them here as she had no needles. These being supplied her, she now complained of having no *tōoktŏo e-wăllŏo* (rein-deer sinew) their usual thread. This difficulty, unfortunately for Iligliuk's credit, was as easily overcome as the other; and when scissors, pattern-clothes, and all the other requisites were laid before her, she was at length driven to the excuse that Okotook's illness would not permit her to do it. Seeing us half laughing at the absurdity of these excuses, and half-angry at the selfish indolence which prompted them, she at last flatly asserted that Okotook desired her not to work, which, though we knew it to be a falsehood, the latter did not deny. We then supposed that some superstition might be at the bottom of this; but having a little while after, by way of experiment, thrown Iligliuk some loose beads upon the table, she eagerly employed herself for half-an-hour in stringing them that not one might be lost; which proved that where her own gratification or interest were concerned, Okotook's illness was not suffered to interfere. This anecdote shews in a strong light that deep-rooted selfishness which, in numberless instances, notwithstanding the superiority of Iligliuk's understanding, detracted from the amiability of her disposition. The fact was that she did not feel inclined so far to exert herself as to comply with Captain Lyon's request; and the slight degree of gratitude and proper feeling which was requisite to overcome that disinclination, was altogether wanting. 1822. April.

I have related this anecdote just as it occurred with the hope of shewing the true disposition of these people, and not with a view of unduly depreciating the character of our friend Iligliuk. I am however compelled to acknowledge that, in proportion as the superior understanding of this extraordinary woman became more and more developed, her head (for what female head is indifferent to praise!) began to be turned with the general attention and numberless presents she received. The superior decency and even modesty of her behaviour had combined, with her intellectual qualities, to raise her in our estimation far above her companions; and I often heard others express what I could not but agree in, that for Iligliuk alone, of all the Esquimaux women, that kind of respect could be entertained which modesty in a female never fails to command in our sex. Thus regarded, she had always been freely admitted into the ships, the quartermasters at the gangway never thinking of refusing entrance to "the wise woman" as they called

1822. April. her. Whenever any explanation was necessary between the Esquimaux and us, Iligliuk was sent for quite as an interpreter; information was chiefly obtained through her, and she thus found herself rising into a degree of consequence to which, but for us, she could never have attained. Notwithstanding a more than ordinary share of good sense on her part, it will not therefore be wondered at if she became giddy with her exaltation, assuming certain airs which, though infinitely diversified in their operation according to circumstances, perhaps universally attend a too sudden accession of good fortune in every child of Adam from the equator to the poles. The consequence was that Iligliuk was soon spoiled; considered her admission into the ships and most of the cabins no longer as an indulgence but a right; ceased to return the slightest acknowledgment for any kindness or presents; became listless and inattentive in unravelling the meaning of our questions, and careless whether her answers conveyed the information we desired. In short, Iligliuk in February and Iligliuk in April were confessedly very different persons; and it was at last amusing to recollect, though not very easy to persuade one's self, that the woman who now sat demurely in a chair so confidently expecting the notice of those around her, and she who had at first with eager and wild delight assisted in cutting snow for the building of a hut, and with the hope of obtaining a single needle, were actually one and the same individual.

Togolat came down to the ships to-day to see her brother Okotook; she was accompanied by Arnalooa, and on their arrival they were both sent for into the cabin. We observed however that they required an unusual degree of solicitation to make them go near Okotook, or even to the side of the cabin where he lay concealed by a skreen; and after all, they remained in the opposite corner next the door; and having talked freely to the invalid for some time, took their leave without seeing him. In the evening, after they were gone, we found that this unfortunate though well-intended visit was occasioning great distress to Okotook, who talked for two hours almost incessantly about "Arnalooa's having seen him," which it seems ought not to have been the case. What misfortune was to be apprehended in consequence of this event we could not learn; but he spoke of it in a kind of agony, and was evidently labouring under the influence of some powerful though absurd superstition respecting it. Towards night he suffered a dreadful bleeding at the nose followed by much sickness at the stomach which, together with the phantom of Arnalooa which still haunted his imagination, combined to make

him extremely unwell for some hours. The next day however he was free from complaint of any kind, and began once more to put on a smiling countenance. 1822. April.

The caulking of our bows being now completed, the ships were released from the ice by sawing round them; an operation which caused them to rise in the water six inches and a half, in consequence of the increased buoyancy occasioned by the winter's expenditure. Tues. 30.

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Winter Island, during the Month of *April*, 1822.

Day	Fahrenheit's Thermometer. Maximum.	Minimum.	Mean.	Mean Temperature of Lower Deck.	Barometer. Maximum.	Minimum.	Mean.	Prevailing Winds. Direction.	Velocity.	Prevailing Weather.
		°	°	°	inches	inches	inches			
1	− 4	− 8	− 6.37	61.7	29.20	29.05	29.132	NW	modt.	cloudy
2	+ 1	10	3.58	62 2	29.74	29.29	29.566	NW	light	hazy and snow
3	5	2	+0.83	64.5	29.83	29.79	29.813	East	modt.	hazy
4	5	10	−1.17	64.0	29.87	29.83	29.843	AM. NE PM. NW	light	clear
5	9	5	+2.08	65.0	29.90	29.80	29.875	North	light	clear
6	9	5	3.75	64.2	29.75	29.40	29.592	NNW	fresh	hazy and snow
7	0	6	−3.00	68.6	29.34	29.24	29.278	NNW	fresh	hazy and snow
8	13½	+ 1	+7.42	69.2	29.48	29.28	29.367	North	light	cloudy and snow
9	9	− 9	3.87	66.0	29.71	29.51	29.620	ENE	modt.	cloudy
10	12	+ 3	6.08	62.5	29.90	29·74	29.840	North	light	cloudy and snow
11	13	2	7.71	68.2	29.98	29.90	29.920	WSW	light	cloudy and snow
12	17	− 0½	7.21	64.0	29.97	29.92	29.948	ESE	light	cloudy and snow
13	6	1	1.87	63.2	30.10	30.00	30.060	East	light	fine
14	9	4	1.75	61.5	30.04	29.90	29.955	NNE	light	cloudy
15	10	2½	2.96	57.5	29.84	29.82	29.835	NNW	light	cloudy
16	9	12	0.33	60.7	29.80	29.60	29.695	WNW	light	fine
17	11	12	0.79	61.1	29.72	29.60	29.660	WNW	light	cloudy
18	10	1	4.46	58.5	29.84	29.71	29.798	SW	light	cloudy and snow
19	11	7	4.67	62.0	29.80	29.76	29.783	round the compass	light	cloudy and snow
20	12	+ 5	8.58	61.5	29.80	29.71	29.752	ENE	fresh	cloudy and drift
21	15	5	8.08	61.7	30.01	29.86	29.910	NE	light	cloudy
22	19	5	10.50	61.2	30.03	30.00	30.022	South	light	cloudy and snow
23	21	2	10.17	61.5	29.94	29.80	29.885	round the compass	light	variable, calm at times
24	13	− 1	5.87	61.7	29.77	29.73	29.742	SW	modt.	cloudy
25	19	+ 6	13.67	60.0	29.78	29.70	29.733	SW	fresh	hazy and drift
26	25	16	21.12	63.0	29.76	29.57	29.645	SSE	fresh	hazy and drift
27	29	22	24.33	63.5	29.55	29.49	29.508	SE	light	cloudy and snow
28	20	0	9.96	64.5	29.73	29.52	29.623	West	light	cloudy and snow
29	9	− 5	3.42	58.5	29.80	29.74	29.780	West	modt.	cloudy
30	16	4	7.88	59.5	30.08	29.83	29.975	NW	light	cloudy
	+29	−12	+5.51	62.7	30.10	29.05	29.738			

CHAPTER IX.

INCREASED EXTENT OF OPEN WATER IN THE OFFING—A TRAVELLING-PARTY DESPATCHED TO THE NORTHWARD—UNSUCCESSFUL ATTEMPT TO RAISE VEGETABLES ON SHORE—DECEASE OF JAMES PRINGLE—A PARTY OF ESQUIMAUX BUILD HUTS NEAR THE SHIPS—RETURN OF THE TRAVELLERS, AND ACCOUNT OF THEIR JOURNEY—FIRST APPEARANCE OF THE PLANTS—BIRDS BECOME NUMEROUS—COMMENCE CUTTING A CANAL THROUGH THE ICE FOR LIBERATING THE SHIPS—ILLNESS AND DECEASE OF JOHN REID AND WILLIAM SOUTER—BREAKING-UP OF THE ICE IN THE BAY—ACCOUNT OF WINTER ISLAND—ABSTRACT OF OBSERVATIONS MADE THERE.

For the last three weeks of the month of April the mean daily temperature of the atmosphere had continued rather above *zero*, and after the 2d of May the thermometer permanently continued above that point of the scale; in which respect we were just a fortnight in advance of the summer of 1820 at Melville Island, the difference of latitude between the two places being 8½°. Notwithstanding this comparison, which we could not help thinking unfavourable to our present station, or at least to the present season, it was fully compensated by the enlivening prospect from the south-east point, where there was, on the 1st of May, so large a space of clear water in sight, that it was generally remarked we had not seen any so extensive since we entered Hudson's Strait. A thin sheet of young ice continued to form on the surface at night, but usually disappeared again in the course of the day. After sunset, on the evening of the 2d, a thin horizontal streak or band of vapour appeared along the lower parts of the land: as the night advanced it became thicker and more diffused, and at length, for the first time this season, the ships were for an hour or two enveloped in fog.

1822. May. Wed. 1.

Thur. 2.

Okotook being now left without any of his own companions, Iligliuk having accompanied some of the women to the village, passed a restless and

1822. May. uncomfortable day. His complaint being removed, and the sun shining bright into the cabin, he frequently got up and walked about, casting many a wishful look through the windows, and expressing great anxiety to go on deck, which however Mr. Edwards would not permit him to do. He had indeed by this time learned to entertain no inconsiderable degree of superstitious reverence for that gentleman's directions, probably of the same nature as those with which Ewerat might have inspired him in similar cases; and he was therefore induced, without difficulty, to give up the thoughts of going on deck. He would then lie down again, and continue muttering to himself in a low tone of voice for an hour together, repeatedly mentioning the name of his son, whom we fancied he wished to have with him. It was therefore no less a relief to us than to him when, in the evening some of the natives arrived, bringing with them a piece of fine venison which, as we were informed, they had been to a considerable distance to fetch, it being part of a store concealed under a heap of stones the preceding autumn. Okotook was once more happy when his friends arrived, willingly admitted them to his bed-side, and talked for two hours with great curiosity and interest of what had been going on at the huts during his absence. We had occasion to remark that, from some superstitious notion, Okotook would on no account permit the other young men to drink out of the same cup with himself: the objection lying wholly on his side, it had evidently no relation to any idea of contagion. Toolooak slept on the same bed with our patient, and the others were comfortably lodged on the lower deck.

Frid. 3. On the following morning we found that our invalid was determined no longer to suffer his present confinement, and that he had settled with his companions that he should accompany them on their return. His original complaint being entirely removed, and nothing remaining but debility, Mr. Edwards thought it advisable rather to let him go without objection, than to run any risk of his incurring fresh mental disquietude by remaining on board alone. He was accordingly seated on the sledge, where however they allowed him to remain an hour before they could make it convenient to set out. Previous to his departure he received several useful presents, notwithstanding which, on leaving the ship, he did not say a word as an acknowledgment; and, as he soon after removed to a more distant station, this was the last we saw of Okotook.

The northern thermometer on the ice stood for a short time to-day, above 40°.

The diminution of snow from the rocks was now going on much more rapidly, and on mild days, such as this, a difference could be perceived in the aspect of the land in the course of four or five hours. Whatever thawing took place, however, the snow seemed to be no sooner dissolved into water than it was also converted into vapour; for not a pool or stream of any kind was yet to be seen. I must however make an exception in favour of a place upon the ice where a line of sand had purposely been laid a day or two before, reaching nearly across the bay, and passing just outside the ships, with the intention of facilitating the thawing process by artificial means, and of thus hastening the time of our release. Here the sand soon made a trench for itself of considerable depth, in consequence of the heat absorbed by it, but it required some labour occasionally to clear out the snow-drift which subsequently collected there. Even this labour we soon after ceased to bestow upon it, finding that nature would require our assistance on a much larger scale if we desired to hasten our departure. There seemed no doubt, however, that in some cases the plan might be of essential service. The first flock of fifteen ducks, which proved to be of the long-tailed species, were seen to-day, as also two silvery gulls. The wind becoming variable, and at length settling from the eastward, the ice closed in with the land; but we now saw this without anxiety, as there was no longer any frost that could cement it to the shore. 1. 2. May.

On the 5th the first pool, from which perhaps a gill of water might have been taken up by a sponge, was seen upon the rocks. The mercury in the barometer which had been very slowly rising from 30.08 inches on the morning of the 1st, had for the third time this winter reached 30.40 at midnight on the 5th, at which it continued for six or seven hours and then fell much more rapidly. The wind had during this time been moderate, and the weather remained fine for several days, though the barometer even with a northerly wind had fallen to 29.70 inches on the 8th. The weather was mild and pleasant to the feelings to-day, the thermometer being as high as 43° in the shade and 57° in the sun. Sun. 5

On the 7th the average depth of snow upon the ice was found to be eight inches, being nearly double what it was on the 31st of March. The weather being now to all appearance tolerably settled, I determined on sending away our travelling-party under Captain Lyon. It consisted of Lieutenant Palmer, five seamen, and three marines, the whole being victualled for twenty days, and furnished with a tent, fuel, and every other convenience of which such a Tues. 7. Wed. 8.

1822. May. journey would admit. The baggage was placed on light sledges, resembling those used by Captain Franklin on his late journey to the shores of the Polar Sea, made out of staves shaved thin, six feet eight inches long, fourteen inches broad, and turned up before. Being secured entirely with thongs of hide sunk by grooves into the wood to keep them from wearing, they were perfectly flexible, so as to be in no danger of breaking on uneven ground. It is astonishing to see with what ease such a sledge is dragged along, the friction of so considerable a surface being more than compensated by its passing over the snow without sinking. Each individual of the party was furnished with one of these, which also served to sleep and sit upon; the weight dragged by each of the men being about one hundred and twenty pounds, and that of the officers from ninety to ninety-five. Each person had also a pair of snow-shoes, a deer-skin jacket and boots for sleeping in, and another pair of boots of water-tight seal-skin.

The general tenor of Captain Lyon's instructions was, "after crossing to the continent, to proceed along that coast to the northward, carefully examining any bend or inlet he might meet with, so as to leave no doubt if possible of its actual extent and communications, thereby preventing the necessity of the ships entering it on their arrival there." I added also the necessary directions for remarking every thing of interest relating to the tides, and the natural productions of the country; and I limited Captain Lyon to the end of the month in returning, to avoid the possibility of detaining the Expedition.

Their preparations being completed, our travellers left the ships under a salute of three cheers from both the crews, and accompanied by a large party of officers and men to assist them for the first few hours. A day or two after their departure a supply of provisions was lodged at the garden, according to a plan previously agreed on, in case of our being forced out to sea with the ice before their return. Arrangements were also made for putting an officer and two men on shore as a guard to this as well as to the clock, tent, or any other articles that might be left behind, in the event of an occurrence of this nature.

Sun. 12. It now became too evident that the climate with which our gardeners had to contend, would not allow them to furnish us with many ounces of vegetable substance, in any reasonable time to which our stay here might be prolonged. A register-thermometer left for four and twenty-hours under the glasses of the beds (they can scarcely be called *hot*-beds) ranged from 25° to 100°, the

frames being closely covered with Russia mats after sunset. The only water we could procure for the seeds was by melting snow; and it would have made a horticulturist smile to see a fire of turf made daily at our garden for this purpose. The snow-drift too had not yet ceased to be an additional annoyance, half a day's labour being sometimes required after the snow had ceased, to admit the sun's rays by removing it from the frames. 1822. May.

On the 13th at noon the thermometer in the sun stood at 55°, that in the shade being at 27°. At seven in the evening the electrometer was tried in the usual manner, without any effect being perceptible on the gold leaf. On the following evening, when the wind had backed to the southward, and the sky was overcast with clouds, it was again tried with no greater success, and the chain was now removed from the mast-head, the ships being nearly ready for sea. Mon. 13. Tues. 14.

In the course of the forenoon of the 15th, a message to our medical gentlemen announced the fall of James Pringle, one of the seamen of the Hecla, from her mizen-top-mast head to the deck; and in a few minutes after I was much shocked in receiving Lieutenant Hoppner's report of his death, no sign of life having indeed appeared in him from the first moment after his fall. On examination it was found that the base of the skull was fractured, and the neck also dislocated. A grave was directed to be dug near the observatory, and arrangements were made for the funeral taking place on the following Sunday. Wed. 15.

On the 16th, Ewerat, with his wife and family, arrived at the ships, bringing with them all their goods and chattels, and with the intention of taking up their abode upon the ice near us. They accordingly built their hut about a hundred yards from the Fury's stern, but whether with the view of living upon us, or the seals that frequent the bay, we were at first at a loss to conjecture. Ewerat's household consisted not only of his own family, but also of Appokiuk and Itkamuk, the former of whom having no husband, and the latter no relative, they both seemed to be fairly "on the parish." Besides this establishment, a second, on a smaller scale, also made its appearance in our neighbourhood, consisting of a very little man named *Koo-il-li-ti-uk*, nick-named by the sailors "John Bull," and his pretty little wife *Arnalōoa*, whose zeal in bringing up her husband's share of the sea-horses, I have before described. These persons, being eight in number, had, determined on travelling to Amitioke for the ensuing summer, influenced, probably in some degree, by the hope of falling in with us again, as they Thur. 16.

1822. May. knew that we were going in that direction. Be this, however, as it may, it was soon evident that they intended making the most of us while we remained neighbours; for on the 17th, though the weather was favourable and they had no food of their own, they made no effort to procure any, except from the ships, to which the women brought their *ootkooseeks* for bread-dust. Though I objected to encouraging this, and told them we should give them nothing if they did not also labour for themselves, they were all such favourites with our people, that I believe they found it answer very well; contriving not only to get plenty of food, but also a number of useful presents. They made, indeed, some return for this, by the usual barter of mittens, of which our people were now furnished with an abundant supply.

Frid. 17.

A great deal of snow fell in the course of the last two days, and our unfortunate gardens were once more buried beneath it. On the evening of the 16th, something like small rain was falling for a few minutes, being the first we had seen this season; but it soon assumed the less equivocal form of sleet, the thermometer being at 31°.

Sat. 18. The observations on the rise and fall of the tide had been constantly made and registered throughout the winter, and were continued till the ships were ready for sea *. This part of the phenomenon we were, therefore, well acquainted with, and had found it very regular. In the *set* of the tides, however, (the most perplexing question, in my opinion, which the navigator in an unknown sea has to solve,) we found much greater difficulty to obtain the desired information. The sea having been occasionally open for days together, it could not be said that, even during the winter, opportunities did not occur of settling this point—at least of making observations on the direction of the current, with reference to the times of high and low water by the shore. Notwithstanding this, however, it was impossible to discover from our register any thing like that regularity in the set of the stream which, with so considerable a rise of tide, (amounting at the equinox to nearly sixteen feet,) is observed in other parts of the world. Our former experience had, indeed, taught us to expect that some irregularity would be produced by the influence of the winds, which here, in a degree unknown in any but the icy seas, tend immediately to produce a superficial current in the water, and consequently to set in motion any floating body, by which a mark may be taken, in order to observe the direction of the stream. Even this, how-

* See the Tide-table in the Appendix.

ever, did not seem sufficient to account for the singular fact that frequently, for twenty hours out of the four-and-twenty, the stream set to the southward, even against a breeze from that quarter, though of course more decidedly so when the wind was northerly. The only way, therefore, in which we could venture upon any conclusion as to the true direction of the flood-tide, was from the circumstance of the stream generally setting to the southward at a rate somewhat less rapid upon the ebb than on the flood, by which it appeared that the latter came from the northward. 1822. May.

On the 19th, after an impressive sermon delivered by Mr. Fisher, the last mournful duties were performed over the remains of our deceased shipmate. The procession consisted of all the seamen, marines, and officers of both ships, and the ensigns and pendants remained lowered during the rest of a day distinguished to us by this sad event. Nothing worthy of notice occurred till the evening of the 21st when, soon after eight o'clock, Captain Lyon and his party were seen on their return over the hills and, being met by a number of the officers and men from the ships, arrived on board before ten, when I was happy to find our travellers in good health, excepting a little snow-blindness and "foot-foundering," of which they soon recovered. I will not further anticipate Captain Lyon's Account, which is here annexed, than to remark that this journey served to excite very reasonable hopes that he had seen the north-eastern extreme of the great peninsula, round which we entertained the most sanguine expectations of shortly finding the desired passage into the Polar Sea. Sun. 19. Tues. 21.

"Leaving the ships on the evening of the 8th of May, the fatigue-party drew our sledges for three hours, which brought us to the most level part of the island. I should have taken them a short distance farther had I not observed that James Pringle stopped behind and lay on the snow, apparently suffering from sickness or fatigue; they were in consequence ordered to return to his assistance. Again advancing for two hours, we pitched our tent for the night at the head of a small bay, the wind continuing fresh from the northward.

"At six A.M. on the 9th we again set out and proceeded onwards for four hours over a plain, which terminated in a low rocky point stretching a short distance into Hoppner's Strait, which separates Winter Island from the main land. We here rested for the day; no change had taken place in the 9.

1822. May. weather, but as the surface of the snow was slightly incrusted with ice, there was no drift to incommode us. As no water was to be procured we were under the necessity of thawing snow.

"Leaving this point, which I named Point Belford, at half-past six we entered the heavy ice in the strait, in order to cross at the narrowest part. It was, however, with great difficulty we made our way amongst the high and irregular masses of ice which filled the strait, and two hours and a half elapsed before we arrived at a small island, although the distance could not have exceeded two miles. All our party being much fatigued we here rested for the night. Our snow-shoes were much damaged, and we were sensible that without their help we could not have drawn our loads amongst the hummocks. On the ice were observed numerous tracks of wolves, foxes, and hares; we also saw the foot marks of a young bear and its mother, and a hare was afterwards seen near the same spot. From an elevated ground we took the bearings of the islands in Hoppner's Strait, which I named Bird's Isles.

10. "The morning of the 10th brought no change in the wind, but the weather was clear and fine. At seven A.M. we moved onwards, and crossed a second strait of a mile in breadth, also filled with heavy ice. This occupied an hour; and we then kept along shore for some distant hills on the main land, near which we expected our forenoon's journey would terminate. In the course of our walk ten deer were seen; they appeared in very poor case, had not cast their winter coat, and were extremely timid. At eleven we stopped to dine. Our road had been over very irregular ground, on which the snow lay in heavy ridges. The beach was low, and from the nature of the ice that lay on it appeared to be very shallow. Several of the party were slightly affected by snow blindness, which I conceive was in a great measure to be attributed to the long continuance of the north wind, which had been blowing for some hours directly in our faces. The latitude by observation here was 66° 25′ 10″ and long. 0° 11′ 15″ west of the ships.

"At six P.M. on again proceeding, a solitary deer ran near us for above a mile, regulating his pace by ours, but seldom coming within gun-shot; soon afterwards three others crossed our path. Having walked about three miles from the place of observation, we arrived at the foot of a hill we had set from Point Belford; this place was distant two or three miles from the beach, which still continued its flat appearance. At about three or four miles from the shore, and bearing S.E.b.E., we observed a chain of four low isles, or

shoals, of about four or five miles in length, from N.E. to S.W. Leaving the hill we proceeded N.E.b.N. until half-past nine P.M., and then pitched our tent. We were on a rising ground, and the wind was painfully severe from the north, with the thermometer at 18°; at midnight the temperature fell to 12°, and at six A.M. on the 11th it was 14°. At thirty minutes past seven A.M. we again crossed the hills, and at ten saw a bay before us, having a gradual descent from the hills to its head, at which we stopped a little before noon, having come about N.N.E. over the high ground. At noon the thermometer was 22°. 1822. May. 11.

"By meridian altitude the latitude was 66° 31′ 20″, and by sights for the chronometer the longitude was 0° 00′ 50″ west of the ships. Five of our party here suffered most severely from snow-blindness, notwithstanding the constant care which had been taken to shade their eyes. It was now impossible to proceed, and before night two men became quite blind. All suffered the most acute pain, and their faces and eyes were much swollen and inflamed. As we could only obtain water by thawing snow, and as we were limited in the expenditure of our small stock of fuel, it was out of our power to afford enough to bathe the eyes of our invalids. The wind gradually subsided on the 12th, thermometer at six A M. 14°, and at noon 22°. The people continued to suffer all day, but in the evening, the snow having melted a little on the rocks, they were enabled to bathe their faces, which afforded great relief. Near our tent were some Esquimaux land-marks, and a mass of stones, built in the form of a grave; one flat slab which composed a side was about five feet by two; we searched for the body, but the ground was too much frozen to be broken up. From an eminence two miles north-east of the tent we found that the southern boundary of this place (which I named Blake's Bay,) bore S.½W.; thermometer at nine P.M. 18°, at midnight 8°. 12.

"Early on the morning of the 13th seven deer passed near the tent; at six A.M. thermometer 10°. Although the eyes of the people were not by any means free from inflammation, yet they were so far recovered as to enable us to proceed, the sufferers being directed by looking down on the sledge immediately before them. Having rounded the bay by half-past seven, we walked along a very flat beach, off which at the distance of a mile was a continued chain of low islands and shoals for two or three leagues. At the expiration of four hours we stopped on a rocky point, round which were the remains of several Esquimaux summer habitations. Thermometer at noon 24°. This was the first day we had obtained water sufficient for our consumption. 13.

1822. May. "At six P.M., proceeding in an E.N.E. direction, farther inland we came at about seven miles' distance to a gradual ascent, and soon arrived on a high hill, from which the sea was distant about three miles. The land was at first tolerably regular, but as we proceeded the rocks became bold and abrupt, and the snow was nearly all thawed from their eastern face. From the bare state of the bluff we found it was a favourite resort of the deer, of which we saw several, as affording them some withered grasses and moss which the the thaw had left exposed, or which were buried so small a depth beneath the snow as to be easily procured by scraping with the feet. At half-past ten we stopped for the night, the thermometer being at 14°.

14. "The morning of the 14th was calm but cloudy, and at six A.M. the thermometer 11°. At half-past seven we descended the rocks, which I named Adderley's Bluff, and found them precipitous near the sea. Passing amongst the heavy grounded ice which lay at their foot, our road became very difficult and fatiguing, the snow lying in such deep ridges as to oblige us to take a very circuitous route. Having walked four hours, and crossed two small bays, we stopped before noon on a low point. At noon, thermometer 26°, latitude by meridian altitude, 66° 37′ 50″, and longitude, by chronometer, 0° 31′ 45″ east of the ships.

"At six P.M. we again moved forward and, crossing a bay of smooth floe ice for two miles, came to a small rocky isle, due north of the place of observation. This island lay across the mouth of a very snug little cove, which from its appearance we supposed likely to afford safe anchorage for ships. Off the isle, on an E.b.S. bearing, is a small rocky shoal. Leaving this we crossed a second bay of a mile in breadth, the ice of which gave the same indications of deep water. After four hours' walk we rested for the night. At ten P.M. thermometer 8°, weather cloudy, and much scud flying from the south-east.

15. "Small snow began to fall on the 15th, and the wind came from the eastward. At six A.M., thermometer 28°. At half-past eight we started and crossed the ice about half a mile to a small island, whence we observed the sea to run up W.N.W. Mr. Palmer and myself walked to its head, a distance of about two miles and a half, when we found it shallow, and full of low gravelly isles. The breadth was about four miles. We here took bearings, and then crossed the flat sea ice N.b.E., four miles, to the foot of a high hill. The most distant eastern land bore N.E. Before we had crossed over the mouth of the bay, which I named after Lieutenant Palmer, the

weather became so very unsettled as at times to hide the land a-head of us. 1822. May.
At eleven A.M. we stopped, thermometer 30°. Heavy snow and drift were now falling, and the weather continued unchanged for sixty-eight hours, during which we were confined to a tent shaped like the roof of a house, and eleven feet by six in breadth, in a sitting posture, and all our clothes became thoroughly wet from the thawing of the snow on the canvass. On the forenoon of the 18th the weather improved, and the wind came round to 18.
N.N.E. Mr. Palmer and myself ascended the highest hill, two miles east of the tent, and thence took bearings of the distant land as laid down in the charts. The hills appeared to cease at the range on which we stood, and the land as far as the first point, which was named Point Elizabeth, was a dead flat. The high distant land to the N.E. appeared as if detached from the plain, and as I was afterwards enabled to observe, proved to be a cape, which I named Cape Wilson. We had from this place seen above two days' journey to the eastward; and as our provisions were half and our wood nearly all expended, I thought it prudent to return, as there was every probability that the weather might prove equally precarious in our journey homewards, or that snow blindness might again detain us. We therefore made across Palmer Bay in our way back, and at the same time to avoid the various bays and turnings of the land, we struck more inland. By the evening of the 20th we had arrived within three miles of Hoppner's Strait. 20.
From our resting-place I observed that on the low islands, (which I had set on the 10th, and now named Turton's Shoals,) much heavy ice was thrown up, in all probability by the open water, which was observed in that direction to extend as far as Winter Island.

"On the 21st we resolved to make a forced march for the ships, as some 21.
of the people yet suffered from sore eyes, and our clothes and blankets had been wet for several days. We therefore started at seven A.M., and crossing to Winter Island, proceeded until past noon, when having rested for two hours, we again pushed on for the ships and reached them at nine P.M.

"It was a matter of regret, that the unfavourable state of the season and the abundance of snow, which every where covered the ground, had precluded all possibility of making any remarks on the state or productions of the country over which we had passed. Such rocks as were exposed were of gneiss, and we also observed a few detached masses of granite. From some pieces of decomposing feldspar which were found projecting through the snow, we picked a few lumps of iron pyrites of the size of a pea. Not a

1822. May. single plant was found in a state of vegetation, which may perhaps account for the almost total absence of birds, as we only saw one raven and three snow buntings. The deer were all in a most wretched condition, and subsistence was barely afforded them from the withered plants of the last season; yet it may be inferred that these animals are numerous in the summer, from the circumstance of our finding on almost every elevated ridge of hills the remains of Esquimaux dwellings, and the piles of stones behind which the hunters are used to conceal themselves. We only twice procured water at noon, and many hours of painful thirst were in consequence experienced. I cannot conclude this account without particularly noticing the great assistance derived from our snow shoes, without which it would not have been possible to proceed even a fourth of the distance we passed over, the snow being, at this season, very deep and soft."

Tues. 23. On the 23d, our neighbours the Esquimaux, who had long by their own account been setting off for Amitioke, at length began in earnest to pack up for their departure. As soon as their preparations were finished, I sent for them all on board, and gave them one of their own sledges, of which they were much in want for carrying their goods, a couple of boarding-pikes, some knives, and several tin canisters filled with bread-dust for their journey. These presents had scarcely been made them when we had reason to apprehend so sudden an influx of wealth might produce serious effects, especially upon the women, whose joy threw them into immoderate fits of laughter, almost amounting to hysterics, which were succeeded by a flood of tears. The men seemed thankful, though less noisy in the expression of their acknowledgments. As soon as some degree of composure was restored, we accompanied them to their baggage, which they had stowed on two of the small travelling sledges given them by Captain Lyon, but which they now shifted to their own. When all was ready, and some other valuable presents had been added to their stock by Captain Lyon, they proceeded to the northward, the women assisting to drag the sledge, for they had only one large dog and one puppy. On taking their departure, these good-humoured and ever-cheerful people greeted us with three cheers in the true Kabloona style, a mode of salutation they had witnessed once or twice among us, and
Frid. 24. frequently practised for their amusement and ours. On the 24th we found they had only proceeded a few miles, as "John Bull" once more made his

appearance on board, and returned to his companions in the evening. From this specimen of their travelling, of which we had as yet little experience, we had great reason to hope that their days' journeys would be found but short ones, and that therefore our distance round the north-eastern point of the American continent was not very considerable. The snow felt softer, and more melting was going on to-day than on any before observed, though only a few black tips of the rocks were yet visible on shore. The animals now began to appear in greater numbers; for on the 25th, a flock of nearly two hundred long-tailed ducks were swimming about in the open water to the south-east of the point. Some of the Esquimaux who came from the nearest western village, also reported having seen a great many rein-deer; but they had not yet succeeded in killing any. 1822. May. Sat. 25.

On the 27th, at noon, the thermometer in the shade rose as high as 36°, the wind being from the S.W., but on its changing to the N.W. on the following day, the temperature fell to 12° at midnight. The thermometer indeed, at this time, seemed as it were to struggle to rise above the freezing point in the course of the day, and not always with success. On the 30th, the first five grouse were killed. These birds were entirely white in their plumage, except near the tip of the tail, where the feathers were of a glossy black. They were in very good condition and weighed from seventeen to eighteen ounces each. Several ducks and silvery gulls were also seen about the point, and Mr. Fife fired at a swan. Mon. 27. Thur. 30.

At the close of the month of May it was a matter of general observation, and of course of general regret, how few symptoms of thawing had yet appeared either on shore or on the ice. Naturally pursuing our usual comparison with the circumstances of the former winter passed in these regions, it was impossible not to recollect that Melville Island had, on the same day two years before, advanced full as far as the country now before us, in throwing off its winter covering. The parts of the land which were now the most bare were the smooth round tops of the hills, on which here and there occurred a little pool of water, from which, taking all together within half a mile round the ships, we should at this time have had great difficulty in filling half a tun. There were also on the lower lands a few dark uncovered patches, looking, when viewed from the hills, like islets in an extensive sea. Vegetation seemed labouring to commence, and a few tufts of the *saxifraga oppositifolia*, when closely examined, discovered some signs of life. A botanist, in short, might have considered vegetation as begun, Frid. 31.

1822. May. but in the popular acceptation of the word it certainly had not. Such was the state of things on shore at the conclusion of the month of May. Upon the ice appearances were not more promising. Except in the immediate neighbourhood of the ships, where from the constant trampling, and the laying of various stores upon the ice, some heat had artificially been absorbed, it would have been difficult to point out in what respect any advances towards dissolution had been made upon the upper surface, where six or seven inches of snow yet remained in every part. Here again, without any undue partiality for our old winter-quarters, it was natural as well as reasonable to bear in mind, that before this time we had there experienced several hours of hard rain, than which nothing proves more effectual in dissolving the ice. The consequence was that, for the last week in May, at Melville Island, the surface of the ice had assumed quite a green appearance; while here it was still as white as a covering of snow could make it.

Under these circumstances I came to the determination, now that the ships were ready for sea, to try what could be effected towards their release, by sawing and cutting the ice; for it was vexatious to see open water daily in the offing, and not to be able to take advantage of it. Arrangements were therefore made for getting every thing, except the tent and instruments, on board the next day, and for commencing this more laborious occupation on the following Monday.

We were not the only inhabitants of these regions that seemed to think it high time for the summer to have arrived, for there was to-day quite a general muster of the birds about the island. A great many ducks and silvery gulls, two swans, two pair of ring-plovers, several ravens and grouse were seen, besides the usual flocks of the cheerful little snow-buntings. Mr. Ross killed a raven and a pair of grouse; the former of these was quite black, and one of the latter, a female bird, had a few speckled feathers on each wing, the tail being black near the tip. Captain Lyon was out for several hours with his gun and met with eight rein-deer, but found them too wild to be approached. The thermometer got up to 41° in the warmest part of the day, but remained so high as this only for a short time, a light breeze of wind immediately bringing it down to 35°.

June. Sat. 1. On the 1st of June, having launched a boat at the mouth of the bay, I went to sound in that neighbourhood and along the eastern side of the island, preparatory to marking out the intended canal. We now found that

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Winter Island, during the Month of *May*, 1822.

Day	Fahrenheit's Thermometer.			Barometer.			Prevailing Winds.		Prevailing Weather.
	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Direction.	Velocity.	
	°	°	°	inches	inches	inches			
1	+16	−5	+7.67	30.12	30.08	30.098	NW	modt.	clear
2	23	3	13.42	30.12	30.08	30.105	NW	light	fine and clear
3	33	+17	25.00	30.16	30.10	30.137	WbN	light	cloudy
4	27	20	22.02	30.30	30.20	30.252	NE	light	cloudy
5	43	20	28.33	30.40	30.27	30.342	NW	light	cloudy
6	24	18	21.04	30.40	30.12	30.287	NE	modt.	hazy
7	30	16	22.02	30.10	29.79	29.970	NE	fresh	cloudy
8	28	30	21.75	29.72	29.70	29.704	NNE	modt.	fine
9	32	20	25.42	29.73	29.68	29.703	NNE	a.m. modt. p.m. light	fine
10	28	10	21.42	29.85	29.75	29.813	NNW	modt.	fine
11	25	8	16.67	30.00	29.88	29.932	NNW	modt.	cloudy
12	23	5	15.75	30.02	30.00	30.003	NNW	modt.	fine
13	30	5	17.25	29.98	29.92	29.968	NNW	light	fine
14	32	3	22.25	29.90	29.70	29.817	West round by South to SSE.	light	cloudy
15	29	20	25.17	29.61	29.47	29.540	SE	modt.	hazy and snow
16	34	23	28.00	29.40	29.30	29.323	ESE	modt.	hazy and snow
17	29	20	25.50	29.60	29.30	29.467	North	strong	cloudy—much drift
18	29	13	22.83	29.63	29.60	29.608	NW	modt.	clear
19	21	10	15.83	29.66	29.62	29.653	WNW	light	cloudy and snow
20	26	6	17.08	30.00	29.80	29.900	NNW	light	fine and clear
21	31	6	20.21	30.08	30.00	30.050	NNW	light	fine and clear
22	39½	0	27.96	30.05	29.87	29.940	WSW	light	cloudy
23	45	25	36.08	29.80	29.64	29.607	West	light	cloudy and snow
24	46	25	32.20	29.43	29.37	29.400	NE	light	cloudy and snow
25	30	18	25.42	29.70	29.40	29.582	NW	modt.	clear
26	31	13	25.67	29.72	29.71	29.718	West	light	fine
27	36	11	29.17	29.74	29.56	29.617	SW	modt.	cloudy
28	31	12	23.42	29.73	29.58	29.668	NNW	modt.	cloudy
29	36	10	25.00	29.84	29.70	29.783	NW	light	fine
30	32	12	24.33	29.86	29.80	29.822	North	light	fine
31	41	13	29.17	29.96	29.82	29.910	West	light	fine
	46	−5	23.09	30.40	29.30	29.833			

1822. June. the heavy ice at the entrance of the bay, on its south-east side, was aground on rocks, having on them in several parts only seventeen feet water at low tide; and in one place, which till now had been covered by the ice and snow, the gneiss peeped above the surface at half-ebb. On the eastern side of the island, along which we rowed two or three miles, the soundings are regular and deep in most places near the shore. A good deal of ice still remained attached to the land; but as far as we could distinguish to the N.N.E. there was a lane of clear water, wide enough for the navigation of the ships. We met with large flocks of king, eider, and long-tailed ducks, the two former species having made their appearance only a day or two before. From this time we generally procured a few ducks daily for the use of the ships, the whole being served in lieu of other meat, according to the "game-laws" already established. We saw besides numbers of the *larus argentatus*, and at the mouth of the bay, in seven fathoms water, a fish supposed to be a salmon, three feet long, swimming near the bottom. The clearness of the water here allowed the rocks at the bottom to be plainly distinguished at that depth.

Sun. 2. On the 2d, at three P.M., a thin white cloud was observed to extend across the northern sky, from north-east to south-west, being then about 65° high in the centre. The whole of the heavens to the southward of this was covered with a similar kind of cloud, that to the northward exhibiting a clear blue sky. The edge, which was well defined, formed a very perfect arch, and here the cloud was much more dense than in any other place, reminding one of a veil of gauze, of which there were more folds in that part than elsewhere. Though the wind was with us at W.b.N., it blew gently over to the S.S.E., still retaining its perfect and continuous arch-like form at the margin. In a quarter of an hour it had got 20° on the south side of the zenith, in forty minutes was only 25° high, and in an hour and a quarter had totally disappeared beneath the southern horizon, leaving the whole of the heavens perfectly cloudless. This was the most striking phenomenon of the kind we had ever witnessed, and while the arch remained near the zenith this magnificent canopy had a singularly grand and imposing appearance.

Mon. 3. On the morning of the 3d at six A.M. both the ships' companies, under their respective officers, were set to work upon the ice. A line was accurately marked out from each of the Fury's quarters, where they were fifty feet apart, diverging to two hundred and fifty at the edge of the floe, the

latter being distant from the ships two thousand and twenty feet, or just one-third of a nautical mile. It was proposed to make a cut through the ice with the saws, along the two lines thus marked out, and then a transverse section here and there, the divergency of the sides being intended to facilitate the removal of the pieces thus detached, by first pulling them out with strong purchases, and then floating them down the canal to the sea without. Nothing could exceed the alacrity with which this laborious work was undertaken, and continued daily from six in the morning till eight at night, with the intermission only of meal-times: nor could any thing be more lively and interesting than the scene which now presented itself to an observer on the south-east point. The day was beautifully clear, the sea open as far as the eye could stretch to the northward, and the "busy hum" of our people's voices could at times be heard, mingling with the cheerful though fantastic songs with which the Greenland sailors are accustomed at once to beguile their labour, and to keep the necessary time in the action of sawing the ice. The whole prospect, together with the hopes and associations excited by it, was to persons cooped up as we had been, exhilarating almost beyond conception. 1822. June.

In the course of the first week we had completed the two side cuts, and also two shorter ones in the space between the ships; making in all a length of two thousand three hundred feet on each side of the intended canal, the thickness of the ice being in general four feet, but in one or two places (where the junction of the sea-ice with the bay-floe had occasioned some squeezing) above ten feet and a half, scarcely allowing our longest saws to work. Laborious as this part of the operation had been, we soon found it likely to prove the least troublesome of the whole; for on endeavouring to pull out the pieces in the manner at first intended, every effort failed, till at length we were reduced to the necessity of cutting each block diagonally before it could be moved from its place. After a week's experience, we also learned that much time had been lost in completing the whole of the lateral cuts at once; for these, partly from frost, and partly by the closing together of the sides of the canal, all required sawing a second and in some places even a third time. It was surprising also to see how powerful a resistance was occasioned by the "sludge" produced in sawing, or as the sailors called it, the "saw-dust," continuing in the cut and appearing to act like oil interposed between two plates of glass, in keeping the masses united. In some cases also, a saw was squeezed so tight by the pressure of the ice in the Sun. 9.

1822. June. cut, that it became necessary to enter a second in order to release it, by sawing out a circular plug of ice completely round it. Fatiguing as this work proved to the men, I directed it to be continued to-day, the sea remaining so open on the outside as to give every encouragement to our exertions.

While we were thus making trial of what art could effect towards our release, nature seemed to be more than usually tardy in rendering her assistance. The snow was still leaving the land by very slow degrees, and some small rain fell for a short time on the 7th, but the mean temperature of the twenty-four hours seldom rose above the freezing point. So small indeed was the quantity of water now to be obtained on shore, that being apprehensive of actually going to sea without any in the holds, each ship commenced melting snow in her coppers for filling the tanks, the crews being necessarily put on an allowance till this was somewhat advanced. The first flower of the *saxifraga oppositifolia* was brought on board as a matter of curiosity by our botanists, on the 9th, or *one day later* than it made its appearance at Melville Island in 1820.

One of our people, in walking over the island, met with a swan's nest, which Captain Lyon went out to see and made a drawing of it. It was built of moss-peat, being no less than five feet ten inches in length, four feet nine inches wide, and two feet deep, as shewn in the annexed sketch by Captain Lyon.

The hole of entrance in the top was eighteen inches wide. Two eggs, each weighing about eight ounces, were found in the nest, in which the old birds were also sitting at first, but too wild to be approached. The eggs are of a cream or brownish-white colour, in some parts a little clouded by a darker

tinge. The female subsequently laid a third egg, and soon afterwards both birds appeared to have wholly deserted the nest. 1822. June.

In the second week our progress with the canal had been considerable, it being now completed within two hundred yards of the Fury's stern. As the men had continued this cold and wet work without intermission for thirteen days together, they were now allowed a half holiday, of which they began to stand in need. Several patients, as might have been expected, had been added to the sick lists of both ships, but by timely and skilful attention the complaints had hitherto been overcome. The opening we had already made in the ice now rendered it so much weaker, and consequently so much more liable to disruption than before, that I considered it prudent to remove the tent, observatory, and instruments on board, as we might at any time have been forced to sea without a moment's warning. Mr. Fisher, therefore, having completed the desired observations, every thing was re-embarked except the transit instrument and meridian-mark, these being left to the last for continuing the determination of the rates of the chronometers. Among the things now brought on board were the garden frames, from which about four pounds of wretched pea-*leaves*, and mustard and cress, had been produced in each garden, by dint of nine weeks' labour and attention. Sun. 16.

Having thus reported our own progress for the last week, I cannot omit saying something of that which nature had been making in the same interval. A few more flowers of the *saxifraga oppositifolia* had here and there been procured; but they were still curiosities, the more so as being almost the only ones that had yet made their appearance. Some water had now been obtained from the shore, by baling a gallon or two from each little pool, and carrying a cask about on a sledge to be thus filled. At Melville Island, at the same period, the ravines were beginning to be dangerous to pass, and were actually impassable during the third week in June.

The sea still continued open in the offing, whenever the wind blew from the northward or westward, and the ducks, of the three species before mentioned, had even increased in numbers. Sand-pipers had also become numerous on shore, and a turnstone, being one of a single pair, was killed. No grouse had been seen since those last noticed. A quantity of tangle-weed appearing in the canal, some pieces of it were pulled up and measured; the length of one of these was twenty-seven feet and a half, of which the stalk occupied twelve. On the 17th we were enabled to unhang the Mon. 17.

1822. June. Fury's rudder and to haul it up on the ice, as well for the purpose of a general examination, as to put on an iron plate where the frost had cracked it since the removal of the snow. We found it quite sound and serviceable in every other part, and it was therefore shipped again in a couple of hours.

Tues. 18. On the 18th, the wind getting round to the south-east and east, a thick fog, being the first very decided one this season, prevailed during great part of the day, and froze hard on the rigging after sunset, the thermometer

Wed. 19. getting down to 31°. At the conclusion of the day's labour on the 19th we had every prospect of getting to sea in forty-eight hours more; but early

Thur. 20. on the following morning, when the ebb or north-easterly tide had made, and was assisted by a breeze from the southward, the whole body of sea-ice came forcibly in contact with the bay-floe; which was now so weakened by our cutting, as to split the whole way from the edge up to the Hecla's stern, a little to the westward of the canal, the latter being almost immediately closed with a considerable crush, but without affecting the ships which lay beyond it. The closing of our artificial canal had the effect of partially opening a natural one at the place where the ice had just been detached; but, as this was incomplete, coming gradually up to a point astern of the Hecla, we were at a loss to know on which of the two our labour would best be employed. An attempt was first made by four strong purchases, stretched from side to side across the new crack, to pull the parts together again, and thus to leave our original canal *in statu quo*. All our power however being insufficient to accomplish this, we commenced with the saws upon the upper part of the crack, with the intention of widening it sufficiently for the passage of the ships. In this work we had made considerable progress when, towards evening, it was perceived that *this* was now closing and our former canal re-opening by the action of the wind and tide. Relinquishing our last attempt therefore, we lost no time in floating some heavy pieces of ice into the canal, to serve as wedges for keeping the sides apart, in case of any fresh pressure from without again disposing them to close.

The fog still continued and some heavy rain fell at night, both of which made a striking alteration in the appearance of the land and ice. The snow which was before hard enough to bear a man in walking, now allowed him to sink almost to the middle; and after this time the water was very abundant on shore, occurring in numerous small streams and ponds in almost every part.

Frid. 21. At two A.M. on the 21st, the piece of the floe which formed the separa-

tion between the two canals drifted bodily outwards, as far as the rocks at the mouth of the bay and the ice that lay upon them would permit, taking with it a heavy-grounded mass that lay near the Hecla, and on which it had before been turning as on a pile or pivot: shortly after a second mass on the eastern side of the canal broke off, the separation taking place upon the line where the ice had been weakened by the sand we had laid upon it. Our work was now at an end, and we had only to wait for a northerly or westerly wind to release us from our present "besetment," for in fact it was now nothing more. Directions were therefore given for closely watching the motion of the ice, both from the ships as well as by regular visits to the shore, at the end of every watch. 1822. June.

It now becomes my painful duty to turn from these busy occupations, where animation, cheerfulness, and hope prevailed, to the sad and solemn scenes of sickness and death; for with both of these did it please the Almighty to visit us at this period! William Souter, quarter-master of the Fury, who in the early part of this week had complained of a slight sickness at the stomach, and having been quite relieved was in consequence discharged to duty, was again, on the morning of the 21st, affected in a similar manner while on deck. Mr. Ross, observing that he was unwell, desired him to go below, to which at first Souter objected, saying that it would soon go off; but Mr. Ross very properly, in compliance with my general orders on this head, insisted on his going to Mr. Skeoch. He was soon relieved by the treatment which Mr. Edwards adopted, and continued well till the night of the 22d, when some dangerous symptoms having appeared and continued for several hours, Mr. Fisher of the Hecla was on the following day called in on a consultation. In the evening of the 23d, the symptoms once more appeared to assume a less threatening aspect, and a hope was indulged that no inflammation in the bowels had yet taken place, which there had before been great reason to apprehend. As the ship was ready for sea, and no work of any consequence remained to be done, every thing was kept as quiet as possible on board, that the patient might suffer no disturbance. On the 24th, Souter's alarming symptoms had so much subsided, that increasing hopes were entertained of his continuing to do well; these flattering appearances, however, received a sudden check about noon on the 25th, after which time he began rapidly though gradually to droop, and between six and seven in the evening breathed his last. Sat. 22. Sun. 23. Mon. 24. Tues. 25.

The impossibility of removing Souter from the sick bay, after the last

1822. June. alarming change took place, rendered his death, or rather the convulsive struggles which for some hours preceded that event, a dreadful trial to poor Reid, whose state had for some time past been scarcely better, the difficulty in his breathing having increased to a most distressing degree. Worn out as he was by bodily suffering and extreme debility, it is probable that the depression of spirits occasioned by Souter's death served to hasten his own
Wed. 26. dissolution, which took place about the same hour the following evening. The slow degrees, by which Reid's death had been long approaching, had served in some measure to prepare his mind for that awful event; though like other consumptive persons, he would sometimes entertain very sanguine hopes of his recovery, and this he continued to do till about the time of Souter's illness. When Souter was dying, Reid remarked that he should not be long after him; and on the 26th, when Mr. Fisher had attended and prayed with him, he said that he should go at one bell, (half-past six) and then enumerated all his clothes to one of the men, who at his request wrote them down for him. After four o'clock he did not speak, and gradually sinking expired at the time he had mentioned.

Frid. 28. On the 28th, the remains of our deceased shipmates were committed to the earth, with every solemnity that so mournful an occasion demanded. They were interred in one grave, on a rising ground a few hundred yards from the sea to the north-eastward of the ships. A handsome tomb of stone and mortar was built over the spot, having at one end a stone let in, with the usual information engraved on it. The sides were plaistered with a kind of viscous clay found in one of the ponds, and the top covered with tufts of the purple saxifrage. The duties of the ships now permitting it, Captain Lyon employed his men in building a similar tomb over the grave of Pringle.

Scarcely had these melancholy duties been performed when the wind, which had been stationary at south for several hours, began to veer a little to the westward and the weather gradually to clear up; and by six P.M. a fresh breeze blew from the W.S.W., so that we had now every reason to expect an almost immediate opening of the ice. It is remarkable that previous to this change the winds had been almost constantly between the S.E. and E.N.E. for ten days; a circumstance we had never before experienced in these seas, and which certainly produced more melting than a period of two months would have done with the wind to the northward and westward. The alteration which the surface of the land had undergone in this interval is indeed almost inconceivable, except to those who have

experienced the rapidity with which such changes do take place, when once they fairly begin in these regions. The whole aspect of the island was so thoroughly metamorphosed, in consequence of the disappearance of the snow, that the very spots on which we had been in the frequent habit of walking for the last nine months, could now scarcely be recognised; and I believe not one among us, if removed from Winter Island in May and brought back in July, would, from the mere aspect of the land, have very easily discovered the scene of our winter's rambles. 1822. June.

Some other birds had now also arrived in our neighbourhood; among these the golden plovers and phalaropes were tolerably abundant, as also boatswains, terns, and dovekies; the latter had been absent for some time; and it was curious to observe that in the interval they had nearly re-assumed their summer plumage. Some brent-geese and black-throated divers were found to frequent the ponds on shore, and a single specimen of the *Larus Sabini* was procured, being the only individual of that species seen on the island. Iligliuk had recognised the bird, (which the Esquimaux call *Ērkeĕt-yūggĕc-ārĭ-oo,*) by the engraving of it, and said we should find them to the [illegible]ward, which piece of information we afterwards found to be correct. We were surprised that no more grouse had been seen, and somewhat disappointed at having only procured a single deer, which the Hecla's sportsmen were fortunate in shooting on the 29th; but of these animals very few had been met with. Two or three foxes had lately been seen, one of which was of a darkish colour and the others quite white. The vegetation had also felt the good effects of the late mild and moist weather, and a number of plants were now appearing in flower. Among these, specimens of the *potentilla nivea, saxifraga cæspitosa, draba alpina,* and *oxytropis arctica,* had been procured within the last three or four days. Sat. 29.

The westerly wind did not long continue, but again veered to the southward and then to the east. On the 30th it suddenly backed to N.N.E., from which quarter it soon freshened to a strong gale with heavy snow and sleet. This inclement weather did us some service in clearing part of our passage out of the bay, which the late winds had blocked up with ice; but to the eastward of the island, the main body remained quite close to the shore. In the course of the night the wind veered to the north, giving us every hope of being speedily at liberty to put to sea. Sun. 30.

Previously to leaving our present winter-quarters, where we had now nearly completed our ninth month, I shall offer a few remarks on the extent and

1822. June. geographical position of Winter Island, and on such of its natural productions as I have not had an opportunity of mentioning in the preceding part of this narrative.

Winter Island is ten miles and a half in length from N.W.b.N. to S.E.b.S., and its average breadth from eight to ten miles. It is what seamen call rather low land; the height of the S.E. point, which I named Cape Fisher, out of respect to our chaplain and astronomer, being seventy-six feet, and none of the hills above three times that height. The outline of the land is smooth, and in the summer, when free from snow, presents a brown appearance. Several miles of the north-west end of the island are so low and level that, when the snow lay thick upon it, our travellers could only distinguish it from the sea by the absence of hummocks of ice.

The basis of the island is gneiss-rock, much of which is of a grey colour, but in many places also the feldspar is so predominant as to give a bright red appearance to the rocks, especially about Cape Fisher, where also some broad veins of quartz are seen intersecting the gneiss; and both this and the feldspar are very commonly accompanied by a green substance, which we took to be pistacite, and which usually occurs as a thin lamina adhering strongly to the others. In many specimens these three are united, the feldspar and quartz displaying tolerably perfect crystals. In some of the gneiss small red garnets are abundant, as also in mica-slate. In lumps of granite, which are found detached upon the surface, the mica sometimes occurs in white plates, and in other specimens is of a dirty brown colour. There are several varieties of mica-slate, and some of these have a brilliant metallic appearance like silver; those which are most so, crumble very easily to pieces. The most common stone next to those already mentioned is lime, which is principally schistose and of a white colour. Many pieces of this substance on being broken present impressions of fossil-shells, and some have also brown waved lines running quite through them. Nodules of flint occur in some masses of lime, but they are not common. Iron pyrites is found in large lumps of black stone, tinged externally with the oxide of iron; it is here and there met with in small perfect cubes. To this list I shall only venture to add grey and red sandstone; and refer to the Appendix for a more detailed account of the mineral productions of the island. Of those of the animal and vegetable kingdoms I have already, in the course of the foregoing narrative, given all the information we could collect.

1822. June.

		°	′	″	
Mean latitude of the Fury's Station,	By 218 meridian altitudes of ☉ and ✳ .	66	11	26.8	North.
	By Mr. Fisher's observations, reduced to the ship	66	11	24.5	„
Mean longitude of the Fury's Station.	By 12 obs. of Jupiter's Satellites, by Mr. Fisher	82	53	45.5	West.
	By 944 sets of observations, comprehendirg 9460 lunar distances from ☉ and ✳	83	10	26.2	„
	Used in the construction of the charts * . . .	83	09	49.6	„
Mean dip of the magnetic needle, by Mr. Fisher		87	49	33	North.
Variation of the magnetic needle, being a mean between Mr. Fisher's observations, and those by myself and the officers		56	18	30	West
Mean time of high-water on full and change days		12h.	11m.		
Rise of the highest spring-tide		15ft.	8in.		
„ of the lowest neap-tide		3	1		

The flood comes from the northward, and runs, at spring-tides, between two and three knots. (See the *Tide Table* in the APPENDIX.)

* See this further explained at the end of the Table of Lunar Observations made in the spring of 1822.

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Winter Island, during the Month of *June*, 1822.

Day	Fahrenheit's Thermometer.			Barometer.			Prevailing Winds.		Prevailing Weather.
	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Direction.	Velocity	
	°	°	°	inches	inches	inches			
1	+42	+21	34.08	29.96	29.94	29.950	SW	light	cloudy
2	36	27	30.12	29.90	29.81	29.852	North	light	cloudy
3	46	26	31.92	29.83	29.78	29.810	From NW round by West to South	light	cloudy
4	40½	29	35.29	29.80	29.78	29.793	North	modt.	cloudy
5	37	23	29.96	29.76	29.63	29.683	NW	modt.	cloudy, snow at times
6	40	23	30.00	29.70	29.67	29.690	NW	light	cloudy
7	47	20	33.46	29.67	29.60	29.632	SSW	light	cloudy
8	32	22	26.42	29.55	29.50	29.530	West	fresh	cloudy
9	32	22	27.00	29.83	29.53	29.602	North	modt.	cloudy
10	36	24	29.58	30.00	29.90	29.967	NW	modt.	cloudy
11	41	25	32.92	29.90	29.72	29.783	NW	modt.	cloudy, snow at times
12	36	25	30.33	29.90	29.55	29.713	North—round by W to SW	fresh	cloudy
13	38	24	32.33	30.00	29.90	29.958	NW	modt.	cloudy
14	42	26	31.25	29.95	29.86	29.905	round the compass	light	cloudy
15	31	22	27.00	29.76	29.58	29.667	NNE	fresh	cloudy
16	46	24	37.00	29.60	29.52	29.517	West	light	fine
17	45	31	37.92	29.76	29.65	29.703	NW	light	fine
18	50	32	39.25	29.80	29.76	29.777	ESE	light	foggy
19	46	31	37.92	29.80	29.75	29.785	ESE	light	foggy
20	42	33	36.75	29.84	29.75	29.808	ESE	light	cloudy
21	39	31	34.83	29.90	29.84	29.867	ESE	light	hazy
22	40	30	35.33	29.80	29.72	29.780	ENE	modt.	cloudy
23	40	29	35.46	29.71	29.68	29.692	East	modt.	cloudy
24	42	32	36.50	29.77	29.70	29.733	SE	fresh	hazy and rain
25	45	30	37.67	29.71	29.70	29.702	S.Easterly	light calm at times	hazy
26	44	32	37.00	29.67	29.62	29.640	ENE	light	hazy and rain
27	43	31	36.67	29.59	29.58	29.588	SE	light	hazy and rain
28	49	31	38.50	29.60	29.49	29.552	SW	light	hazy and rain
29	44	32	37.75	29.58	29.50	29.537	a.m. West p.m. South	light	cloudy
30	32	30	31.00	29.41	29.10	29.220	NNE	fresh	hazy, snow and sleet
	50	20	33.97	30.00	29.10	29.717			

CHAPTER X.

DEPARTURE FROM WINTER ISLAND—MEET WITH SOME ESQUIMAUX TRAVELLING TO THE NORTHWARD—OBSTRUCTIONS AND DANGER FROM THE ICE AND TIDES—DISCOVERY OF THE *BARROW RIVER*, AND ITS FALL—FAVOURABLE PASSAGE TO THE NORTHWARD—ARRIVAL OFF THE *STRAIT OF THE FURY AND HECLA*—PROGRESS OPPOSED BY A FIXED BARRIER OF ICE—COMMUNICATE WITH THE NATIVES OF IGLOOLIK—UNSUCCESSFUL ATTEMPTS TO GET BETWEEN THE ICE AND THE LAND—LAND UPON *THE CALTHORPE ISLANDS*—THE FURY DRIFTED BY THE ICE BETWEEN TWO ISLANDS—ACCOUNT OF A JOURNEY PERFORMED IN SLEDGES UP AN INLET TO THE WESTWARD.

THE gale which had for some time been blowing from the northward veered to the N.W.b.W., and increased in strength on the 1st of July, which soon began to produce the effect of drifting the ice off the land. In the course of the day, a wide lane of water was thus opened to the eastward of the island, but the weather was too inclement to think of moving the ships. The wind continued to blow very hard during the night, with snow and sleet, but began to moderate about four A.M. on the 2d. At six o'clock, the report from the hill being favourable, and the wind and weather now also sufficiently so, we moved out of our winter's dock, which was indeed in part broken to pieces by the swell that had lately set into the bay. At seven we made sail with a fresh breeze from W.N.W., and having cleared the rocks at the entrance of the bay, ran quickly to the northward and eastward. At noon we had Adderley's Bluff due north of us, distant eight miles, and from Captain Lyon's chart and description easily recognised Point Elizabeth beyond it. We now found that the land was completely lined with ice, extending in most places from two to five miles to sea-ward, and apparently attached to the shores as firmly as any we had seen. The part next the land, consisting of a strip one or two miles in width, was smooth and level and covered with numerous ponds of water, all which shewed it to have been

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Tues. 2.

1822. July. of the last winter's formation. The outer band of ice was of the "hummocky" kind, which I have shewn to be produced by external pressure, or by the cementing together of a number of broken masses left in the autumn by the succeeding winter's frost. The ice in the offing was also of the latter kind and drifting rapidly about with the tides, leaving us a navigable channel varying in width from two miles to three or four hundred yards.

Having passed Adderley's Bluff, which is much the highest land hereabouts, we soon found the ice closing in to the land-floe, and therefore made the ships fast to the latter, after a fine run of ten leagues without any obstruction. The soundings here were extraordinary, considering the bold appearance of the land; for at the distance of two miles from it we had only eleven fathoms, on a bottom of small stones and shells; and by the boats we found from ten to twenty-two fathoms along the edge of the floe. On their return we were again able to get under way, and after gaining another mile or two made fast as before. Soon after the sea-ice came in upon us, but with so little force or at least in so many broken pieces as to do the ships no injury, though it appeared to be approaching in a very threatening manner. This motion in the ice was occasioned by the making of the flood-tide, which here as at Winter Island we found to come from the northward.

Wed. 3. The ice remained close till half-past four A.M. on the 3d, when, after having sent a boat to sound, we cast off and ran along the margin of the floe. In an hour and a half we were obliged again to make fast, to allow a stream of ice to drift past us with the tide, after which we once more pushed forward for a short time. Between Cape Wilson and Point Elizabeth the land forms a considerable indentation, and is here moderately high. In the course of the forenoon, as we ran along, a man was observed standing on a hummock of ice in-shore of us. As we concluded it to be one of our friends on their way from Winter Island, we hoisted our colours but could not afford to heave-to. At noon we were in latitude, by observation, 66° 50′ 40″, and longitude, by chronometers, 81° 51′ 12″.

The closeness of the ice again obliging us to make fast, we soon after perceived a party of people with a sledge upon the land-floe in the same direction as before. I therefore sent Mr. Bushnan with some of our men to meet them and to bring them on board, being desirous of ascertaining whereabouts according to their geography we now were. We found the party to consist, as we expected, of those who had taken leave of us forty days before, on their departure to the northward, and who now readily

accompanied our people to the ships; leaving only Togolat's idiot-boy by the sledge, tying him to a dog and the dog to the ice. As soon as they came under the bows they halted in a line and, according to their former promise, gave three cheers, which salutation a few of us on the forecastle did not fail to return. As soon as they got on board they expressed extreme joy at seeing us again, repeated each of our names with great earnestness, and were indeed much gratified by this unexpected rencontre. Ewerat being now mounted on the plank which goes across the gunwales of our ships for conning them conveniently among the ice, explained in a very clear and pilot-like manner, that the island which we observed to lie off Cape Wilson was that marked by Iligliuk in one of her charts, (No. 1.) and there called *Awlĭkteewik*, pronounced by Ewerat *Ow-lĭttĕe-week*. On asking how many days' journey it was still to Amitioke, they all agreed in saying ten; and back to Winter Island *oonoōktoot*, (a great many,) so that we had good reason to hope we were not far from the former place. I may at once remark, however, that great caution is requisite in judging of the information these people give of the distances from one place to another, as expressed by the number of *seēniks* (sleeps) or days' journeys, to which in other countries a definite value is affixed. No two Esquimaux will give the same account in this respect, though each is equally desirous of furnishing correct information; for besides their deficiency as arithmeticians, which renders the enumeration of ten a labour, and of fifteen almost an impossibility to many of them, each individual forms his idea of the distance, according to the season of the year, and consequently the mode of travelling in which his own journey has been performed. Instances of this kind will be observed in the charts of the Esquimaux, in which they not only differ from each other in this respect, but the same individual differs from himself at different times. It is only, therefore, by a careful comparison of the various accounts, and by making allowance for the different circumstances under which the journeys have been made, that these apparent inconsistencies can be reconciled, and an approximation to the truth obtained.

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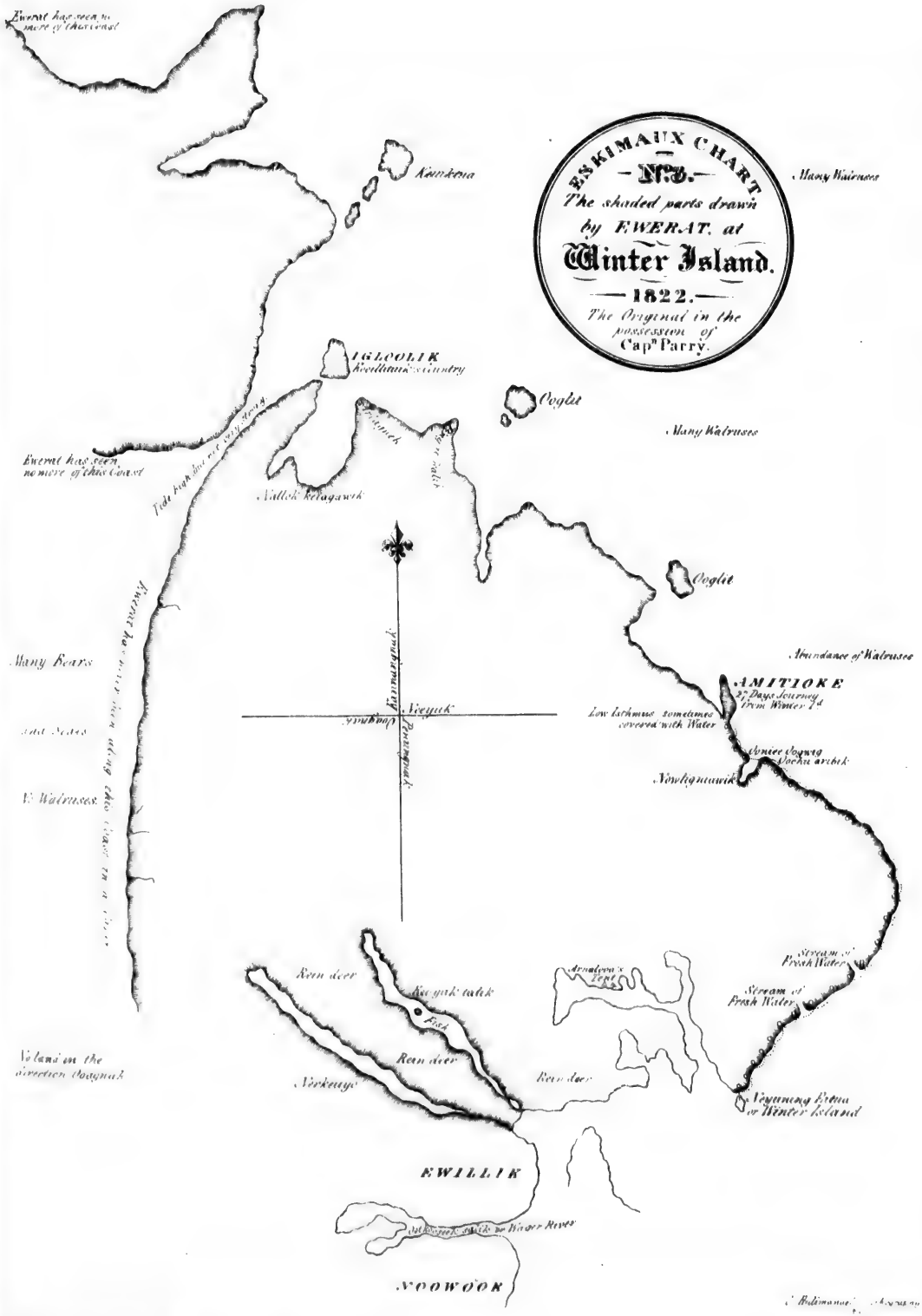
Many of our officers and men cordially greeted these poor people as old acquaintance they were glad to see again, and they were loaded as usual with numerous presents, of which the only danger to be apprehended was lest they should go mad on account of them. The women screamed in a convulsive manner at every thing they received, and cried for five minutes together with the excess of their joy; and to the honour of "John Bull" be

1822. July. it recorded, he sent by one of the men as he left the ship a piece of seal-skin, as a present to *Parree*, being the first offering of real gratitude, and without any expectation of return, that I had ever received from any of them. I never saw them express more surprise than on being assured that we had left Winter Island only a single day; a circumstance which might well excite their wonder, considering that they had themselves been above forty in reaching our present station. They had obtained one rein-deer, and had now a large seal on their sledge, to which we added a quantity of bread-dust that seemed acceptable enough to them. As our way lay in the same direction as theirs, I would gladly have taken their whole establishment on board the ships to convey them to Amitioke, but for the uncertain nature of this navigation, which might eventually have put it out of my power to land them at the precise place of their destination. The ice again opening we were now obliged to dismiss them after half an hour's visit, when, having run to the Hecla's bows to see Captain Lyon and his people, they returned to their sledge as fast as their loads of presents would allow them. I here annex a chart drawn by Ewerat, which served as satisfactory confirmation of Iligliuk's.

After sailing two miles towards Cape Wilson, we found the ice again closing in with the land-floe and drifting to the south-west with this extraordinary flood-tide, which we here found to monopolize full three-fourths of the four-and-twenty hours, besides running in general much more rapidly than the other. After the Fury was secured, the ice swept the Hecla alongside of her, before Captain Lyon had time to secure his hawsers, the tide running full a knot and a half. Much havoc is usually to be apprehended in such cases; after some grinding and squeezing, therefore, we considered ourselves to have escaped very well with the loss of one of the Hecla's boats torn to pieces by the Fury's anchor; but were soon afterwards much mortified in discovering that the latter was rendered unserviceable also, by being badly cracked in the shank.

Thur. 4. At midnight the ice began drifting to the north-east with the ebb-tide, which seemed to set more in earnest than we had ever seen it do before, though for what reason was not apparent. In consequence of this movement, a number of heavy floe-pieces came with great violence against our sterns at fifteen minutes past one A.M. on the 4th, setting along the edge of the land-ice, and threatening to carry us away, with an equal strain on each of five stout hawsers. The uncertainty respecting the soundings off Owlitteeweek, where


ESKIMAUX CHART
No. 3.
The shaded parts drawn
by EWERAT, at
Winter Island.
1822.
The Original in the
possession of
Capn Parry.
Ewerat has seen no more of this Coast
Keuiktua
Many Walruses
IGLOOLIK
Kooillituik's Country
Ooglit
Many Walruses
Ewerat has seen no more of this Coast
Nallok kelagawik
Ooglit
Abundance of Walruses
Many Bears
AMITIOKE
27 Days Journey from Winter Id
Low Isthmus sometimes covered with Water
Neeyuk
Ooniee Oogwig
Oochu aribik
Nowligniawik
Rein deer
Kooyak talik
Fish
Rein deer
Rein deer
Stream of Fresh Water
Stream of Fresh Water
Neyuning Eitua or Winter Island
EWILLIK
NOOWOOK

the numerous grounded masses indicated shoal water, alone prevented our casting off and suffering the ships to drive to the north-east; but the danger of drifting, thus hampered, into shoal water and in a strong tide-way is evident. 1822. July.

Between three and four A.M. the tide slackened, having run less than four hours to the north-east; and at five the ice opened, enabling us to cast off, but with so light an air of wind from the south-east as scarcely to allow us to stem the flood. At half-past six the ice again began to close, and the signal was made to secure the ships to the floe. The depth of water, however, which the heavy ice draws giving the tide a much greater hold of it than of the ships, the latter were unable with the present light breeze to get out of its way. In consequence of this the Hecla which, from her situation, had taken the lead, was quickly beset at the distance of one-third of a mile from the land-ice, and drifted several miles back to the south-west, in spite of every endeavour to reach the floe. The Fury, having just succeeded in running out a line and securing her hawsers to it before the ice came upon her, held on in this situation, and was thus separated from her consort.

Though we had succeeded in placing the Fury in a considerable indentation of the floe, the ice during the forenoon drove violently into it, and several heavy masses coming in contact with our quarter heeled the ship at times a couple of streaks, forcing some of the pieces also to turn over end and sink under her bilge, but without doing any injury. The first time that this occurred there was great reason to apprehend our being forced from the floe, with all the ship's company absent, they having just been sent to endeavour to save some whale-lines that had been carried away. I afterwards found that many of Captain Lyon's men had been also exposed to this risk for several hours, in the course of their frequent but unavailing endeavours to secure their ship by a hawser to the floe.

Our latitude observed at noon was 66° 54′ 17″, and the longitude, by chronometers, 81° 44′ 50″, our soundings being thirty-eight fathoms, on a bottom of sand and small stones. Neither on this nor on any other occasion during our continuance about this parallel of latitude, did we ever distinguish any appearance of land to the eastward, though the weather was frequently very favourable.

After eleven A.M. the ice had remained quite stationary during the whole period of the ebb-tide, which seemed not to have power to set it against a light air of north-easterly wind, and the same thing occurred at night. On

1822. July. Frid. 5. the morning of the 5th it once more opened out, leaving a lane of water which appeared to reach within two miles of the island of Owlitteeweek. As we could there discover a bight in the floe, in which better security could be found from the ice than in our present exposed situation, we made sail for it, after sending a boat a-head with signals to make known the soundings; the depth of water proved regular, shoaling gradually from thirty-eight fathoms, as far as our boat could go. As we proceeded the ice continued to open, allowing us to make fast in a very good situation only one mile and a quarter from the island, and in eleven fathoms water, from which we afterwards warped into nine to endeavour to get out of the tide, which we here observed to run with unabated rapidity. We now for the first time secured the ship to the smooth and level land-floe, which continued to run along the shore at the distance before described. The Hecla still remained beset and had now drifted to the distance of twelve miles from us.

In the afternoon I sent Lieutenant Reid, accompanied by a party of other officers, to the island, for the purpose of examining its natural productions, as well as with the hope of procuring some game, a herd of deer having been observed from the ship. Our gentlemen returned at night, having succeeded in killing one of these which gave us fifty-eight pounds of lean venison; and they also brought several ducks. The birds, which were extremely numerous at this station, consisted principally of the king, eider, and long-tailed ducks, the latter being much the most abundant, and occupying almost constantly a part of the open water in the bight of the ice where we lay. These were, however, not so tame as the other two species, which would almost at first allow themselves to be knocked down with a boat-hook, and could afterwards be easily approached in a boat under sail, provided the little chattering long-tailed ducks did not give the alarm. The tern were also tolerably numerous, and a few silvery gulls were seen. On shore a number of red and black-throated divers frequented the ponds; two or three individuals of the *Larus Sabini* were seen, and Mr. Edwards noticed some others which, from their size and colour, he took to be snow-geese. The island of Owlitteeweek, which is high on its N.N.E. but very low on the south side, is composed of gneiss, the rocks presenting on their surface a wavy or serpentine appearance. The vegetation was found to be poor and backward, and very few specimens of plants were here added to our collections.

As might be expected from the appearance of the island, the water is not deep at a considerable distance from the shore on the south, S.E., and S.W.

sides, where there was the largest collection of heavy masses of grounded ice that I ever saw in one place. In sounding near these, however, our boats never found less than five fathoms, and that by a regular decrease towards the shore. 1822. July.

For the first time since we had come on this coast, we found the ebb-tide running full as strong as the flood, and setting more out from the land or to the eastward than before. This latter alteration was probably occasioned merely by a turn given it in running from the northward, between Cape Wilson and the island, though at the time we were willing to hope that it indicated some favourable turn in the land immediately beyond the Cape. As we here lay without disturbance from the ice, a good opportunity was afforded of observing the time of high and low water compared with that of the stream. The result of several observations all nearly agreeing is certainly a curious and uncommon one; for we found that the water continued to rise or fall from an hour and a half to an hour and three-quarters *after* the succeeding stream had commenced. Various other instances of similar anomalies in the phenomena of the tides upon this part of the American coast were observed in the course of the following week's navigation.

On the morning of the 6th, the Hecla appeared to be drifting farther to the S.W. than before; but we did not know whether this might not be attributed to the deception occasioned by a very extraordinary degree of refraction occurring to-day in all objects near the horizon. For some hours her masts seemed thrown up into one peaked body, like an immense steeple, and at other times, she seemed altogether flattened down into the form of a low and preposterously long ship without masts. The wind was light and several times veered round the compass in the course of the day, with now and then a little moist feeling in the atmosphere. Sat. 6.

The latitude of this place was 66° 55′ 58″, the longitude, by chronometers, being 81° 38′ 43″. Mr. Fisher found the dip of the magnetic needle to be 87° 47′ 13″ and the variation was 62° 17′ westerly. The opportunity being a favourable one for obtaining the deviation of the needle on each direction of the Fury's head, several hours were thus employed this afternoon; the observations are inserted in the proper table in the Appendix.

Early on the morning of the 7th, when the ebb-tide had made very strong, a piece of the land-ice half a mile long suddenly broke off and drifted away. The end of it being fortunately just clear of our bows, we had time to sheer out of its way, or we should immediately have been carried among Sun. 7.

1822. July. the loose ice in the offing and beset. This escape we considered the more fortunate as the Hecla was soon after observed to be under sail, and rapidly nearing us in a clear lane of water. The ice at this time appearing less close than it had hitherto been, on the opposite side of the island, I left the ship in a boat, to examine the state of it by rowing round the point, that in the event of its proving favourable not a moment might be lost in pushing on to the northward whenever the Hecla joined us. After rowing about four miles to the N.N.E., and finding a lane of open water sufficiently wide for the ships with a free wind, as well as a proper depth of water along the land-ice, I returned on board, in order to take advantage of the first of the ebb-tide in getting the ships along the coast. I was happy to find from Captain Lyon, who had joined an hour before my return, that the Hecla had escaped from her "besetment" without injury or loss of any kind, though she had remained drifting about the whole time till the morning of the 6th, notwithstanding the constant exertions and fatigue of the officers and men in endeavouring to secure her to the floe.

The ships being immediately got under sail, we rounded the point in seven fathoms water, at the distance of half a mile from the grounded ice, and soon afterwards deepened to fifteen and eighteen fathoms. The wind failing, however, and the ice having closed the land since my return in the boat, we were soon obliged to haul in-shore and pick up the best births we could find among the grounded masses, where we lay in from ten to twelve fathoms but much exposed to the pressure of the sea-ice. Fortunately, however, this did not come any closer, and we remained undisturbed; which circumstance was partly owing to a fresh breeze from the northwest that sprung up in the evening, and continued to blow during the night. This had, also, the good effect of driving the ice some distance off the land, of which we did not fail to take advantage; and at half an hour before midnight cast off and made sail with the young ebb-tide. The weather was dull and overcast, with a dense fog hanging over most parts of the land.

Mon. 8. Our progress however was but small; for about three A.M. on the 8th, after advancing only four or five miles, we had reached the end of the open water and were therefore obliged to shorten sail, with no pleasing prospect before us as to the birth we might expect to find for our security. On this northern side of Cape Wilson the land ice had assumed a different and more dangerous character than before. The whole way from Winter Island its margin bore evident marks of tremendous external pressure, but it had

hitherto afforded numerous bays or indentations, into which a ship might be taken with some hope of finding shelter from the sea ice. Here however the floe, besides being infinitely heavier and more "hummocky," (for it was in many places from eight to twelve feet above the water,) was also so straight along its edge as to offer not the smallest security; while the enormous masses, every where piled up by recent pressure, appeared like so many beacons placed to warn a ship of the fate she might expect to meet, if obliged to make fast in so exposed a situation. Such however is the nature of this navigation, and the necessity of pushing on to the last moment of any clear water appearing, that to bestow a thought on our next place of security, until that moment arrives, would be to lose opportunities which no exertions could regain, and ultimately to incur certain failure. We therefore made fast on this occasion in the first place that presented itself, for there was in fact no choice; neither was there any time to lose, as the ice was beginning to close, and would soon commence drifting to the southward, so that our only chance of holding on consisted in securing our hawsers as quickly and effectually as possible. 1822. July.

The place where we now lay was distant about a mile and three quarters from the land, and we had twenty-one fathoms, the soundings having deepened to this as we receded from Owlitteeweek. At the distance of a mile and a half outside of the land ice, we found from thirty-five to thirty-nine fathoms, being the deepest casts we had obtained since leaving the immediate neighbourhood of Winter Island. The ebb-tide here set to the N.N.E., the flood to the S.S.W., as before; but the former now ran about five hours to the other's seven; it was not however so strong by more than half a knot, so that the southerly set still considerably predominated.

The ebb did not slacken till forty minutes past five A.M., when the stream almost immediately began to set to the southward, bringing with it as usual the whole body of drift ice trailing along the edge of the land floe, and quickly filling the narrow channel through which we had lately been making our way to the northward. Fresh hawsers were now run out and secured to the hummocks with all possible strength and care, and the ships so placed that their sides might bear pretty equally fore and aft against the softest parts of the floe. Notwithstanding these precautions, at nine A.M. the Hecla broke adrift and, as we were soon after informed by signal, with some damage to her rudder and the loss of seven hawsers. I subsequently received from Captain Lyon the following account:—

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"The flood-tide coming down loaded with a more than ordinary quantity of ice pressed the ship very much between six and seven A.M., and rendered it necessary to run out the stream cable, in addition to the hawsers which were fast to the land ice. This was scarcely accomplished when a very heavy and extensive floe took the ship on her broadside and, being backed by another large body of ice, gradually lifted her stern as if by the action of a wedge. The weight every moment increasing obliged us to veer on the hawsers, whose friction was so great as nearly to cut through the bitt-heads, and ultimately set them on fire, so that it became requisite for people to attend with buckets of water. The pressure was at length too powerful for resistance, and the stream cable, with two six and one five inch hawsers, went at the same moment. Three others soon followed. The sea was too full of ice to allow the ship to drive, and the only way by which she could yield to the enormous weight which oppressed her was by leaning over on the land ice, while her stern at the same time was entirely lifted more than five feet out of the water. The lower deck beams now complained very much, and the whole frame of the ship underwent a trial which would have proved fatal to any less strengthened vessel. At this moment the rudder was unhung with a sudden jerk, which broke up the rudder case and struck the driver boom with great force. In this state I made known our situation by telegraph, as I clearly saw that in the event of another floe backing the one which lifted us, the ship must inevitably turn over, or part in mid-ships. The pressure which had been so dangerous at length proved our friend, for by its increasing weight the floe on which we were borne burst upwards, unable to resist its force. The ship righted and, a small slack opening in the water, drove several miles to the southward before she could be again secured to get the rudder hung; circumstances much to be regretted at the moment, as our people had been employed with but little intermission for three days and nights, attending to the safety of the ship in this dangerous tideway."

The Hecla having been thus carried adrift by the irresistible pressure of the ice, which still continued to bear down upon us with the same violence as before, it became evident that all ordinary means must now prove insufficient to retain the Fury in her present station. The inadequacy of any number of hawsers to bear the requisite strain, arises princi-

pally from the impossibility of keeping them all equally tight, in consequence of the frequent changes in the direction of a ship's head by the irregular pressure of the ice. The only method therefore, by which it seemed practicable to prevent being forced adrift, was to run out a bower cable to some of the numerous large hummocks upon the land-floe, which was accordingly done, and all the hawsers then got on board. In the course of the afternoon the Fury withstood several very violent pressures, which gave us some reason to apprehend damage to the windlass, if not to the ship's bows, so heavy was the strain at times upon the cable, but fortunately every thing held on. As soon as the ebb-tide had made, we took the opportunity afforded by a small lane of open water, to endeavour to save the Hecla's hawsers that had been carried away, which service was performed in a couple of hours by the boats under the command of Lieutenant Reid; and to avoid detention to the Hecla a staff was erected on the spot, with a note for Captain Lyon's information. The Hecla had in the mean time been driven several miles back to the southward, after vainly endeavouring for some hours to secure fresh hawsers to the land-floe, and at the frequent and indescribably painful risk of having her men separated from their ship by the rapid and irregular motion of the ice. In the course of the evening an immense floe was separated from the land, just beyond us to the northward and, drifting out into the main stream of the tide, left the first clear space completely as far as the shore, that we had yet seen since leaving Winter Island. This occurrence, though it gave us evident proof that the disruption of the ice was rapidly going on, at the same time increased the hazard of this navigation; for the pressure of such a floe in motion in a strong tide-way would be sufficient to crush the stoutest ship, while the absence of land-ice in that part would render her more liable than before to be forced upon the rocky shore. The wind came from the S.S.W. at night, with clear and delightful weather, and a sky that might vie in beauty with that of an Italian landscape. The flood-tide was less strong, and therefore gave us less disturbance than that of the morning. 1822. July.

At half-past eight on the morning of the 9th, a considerable space of open water being left to the northward of us by the ice that had broken off the preceding night, I left the Fury in a boat for the purpose of sounding along the shore in that direction, in readiness for moving whenever the Hecla should be enabled to rejoin us. I found the soundings regular in almost every part, and had just landed to obtain a view from an eminence, when I was recalled Tues. 9.

1822. July. by a signal from the Fury, appointed to inform me of the approach of any ice. On my return, I found the external body once more in rapid motion to the southward with the flood-tide, and assuming its usual threatening appearance. For an hour or two the Fury was continually grazed, and sometimes heeled over by a degree of pressure which, under any other circumstances, would not have been considered a moderate one, but which the last two or three days' navigation had taught us to disregard, when compared with what we had reason almost every moment to expect. A little before noon a heavy floe some miles in length, being probably a part of that lately detached from the shore, came driving down fast towards us, giving us serious reason to apprehend some more fatal catastrophe than any we had yet encountered. In a few minutes it came in contact, at the rate of a mile and a half an hour, with a point of the land-ice left the preceding night by its own separation, breaking it up with a tremendous crash, and forcing numberless immense masses, perhaps many tons in weight, to the height of fifty or sixty feet, from whence they again rolled down on the inner or land side, and were quickly succeeded by a fresh supply. While we were obliged to be quiet spectators of this grand but terrific sight, being within five or six hundred yards of the point, the danger to ourselves was two-fold; first, lest the floe should now swing in, and serve us much in the same manner; and secondly, lest its pressure should detach the land ice to which we were secured, and thus set us adrift and at the mercy of the tides. Happily however neither of these occurred, the floe remaining stationary for the rest of the tide and setting off with the ebb which made soon after. In the meanwhile the Hecla had been enabled to get under sail, and was making considerable progress towards us, which determined me to move the Fury as soon as possible from her present situation into the bight I had sounded in the morning; where we made fast in five and a half fathoms alongside some very heavy grounded ice, one third of a mile from a point of land lying next to the northward of Cape Wilson, and which is low for a short distance next the sea. At nine o'clock a large mass of ice fell off the land-floe and struck our stern; and a "calf" lying under it, having lost its superincumbent weight, rose to the surface with considerable force lifting our rudder violently in its passage but doing no material injury.

Wed. 10. Early on the morning of the 10th, the breeze having freshened up from the S.S.W., the prospect to the northward was truly gratifying; and at fifteen minutes after one A.M., when the Hecla had nearly joined us, we made all sail alongshore, soon deepening the water to twenty fathoms, and after-

wards to thirty-five no bottom, at the distance of a mile and three quarters from the land. Very little snow was now lying upon the ground, and numerous streams of water rushing down the hills, and sparkling in the beams of the morning sun, relieved in some measure the melancholy stillness which otherwise reigned on this desolate shore. At three A.M., we had sailed as near the end of the open water as we could safely venture, though in a sea without so strong a tide-way we might still perhaps have threaded a passage through the ice some miles farther. Here however it was indispensably necessary if possible to secure the ships before the strength of the flood-tide should come on, and we accordingly hauled in-shore for that purpose. The land along which we had been sailing was that from which the ice had been principally detached, so that we had doubts of finding either the means of holding fast or any security from driving on shore. On sending the boats to examine the soundings, however, both were fortunately discovered, there being abreast of the ships a number of heavy insulated masses of ice lying aground*, with small but sufficient patches of the land-floe within them still adhering to the beach. We here made fast in six fathoms, about a hundred yards from the shore, and were not sorry to obtain a little rest, as well as a temporary cessation from anxiety respecting the immediate safety of the ships. It was low water by the shore at fifty minutes past nine A.M., having fallen two feet in one hour and ten minutes. 1822. July.

After noon we landed to take a walk, and found the mineralogical character of this part of the coast nearly the same as before, the rocks being composed of greyish gneiss with fragments of granite, quartz, mica-slate, some iron-pyrites, and most of the other substances observed at Winter-Island, lying scattered on the surface. Many of the stones found in the streams were coated with a thin crust of the oxide of iron. There was no absolute want of vegetation, many considerable patches occurring entirely covered with moss, grass, and other plants; but the whole of these were in a remarkably backward state, the *saxifraga oppositifolia* being, I believe, the only one as yet in flower. The *andromeda tetragona* was here very abundant, and numerous tufts of sorrel were just putting forth their first red leaves. A number of rein-deer were seen, but they proved too wild for us, and birds were unusually scarce. Captain Lyon picked up an Esquimaux lamp, curious

* These for distinction's sake we were in the habit of calling "bergs," though we saw none of the immense bodies properly so called, after reaching about the middle of Hudson's Strait.

1822. July. on account of its being made of two pieces of red granite firmly cemented together, instead of pot-stone as usual.

At high water this evening, which took place at four P.M., the berg on which our chief dependence was placed for security from external pressure, rolled completely over, but still held fast on the ground. By the swell thus occasioned a disruption of some of the land-ice also took place, which for some time threatened to carry us adrift. At the same time a heavy floe coming in promoted by its pressure this unwelcome disturbance, and releasing a "calf" under the Fury's stern, made it rise with considerable violence against her counter. The stream-cable was now fastened round the berg, as the only remaining security against our being forced on shore, should the land-ice wholly desert us; but the water falling from this time gave us some hours' respite.

The northerly breeze kept the ice moving to the southward during the whole of the ebb-tide, as had been so often remarked before, shewing how weak the stream of that tide is on this coast, comparatively with the other, and the consequent necessity of holding on somewhere or other at all risks, when the state of the ice does not admit of making any progress to the northward. If the safety of a ship were alone to be consulted, it would undoubtedly answer that purpose most effectually, to let her float about among the loose ice in the offing; but a very few days' drift would in this case carry her to Southampton Island, and the labour of weeks thus be inevitably lost.

Thur. 11. At high water on the 11th the ice, to which the Hecla's hawsers were secured, was dislodged from the shore, partly by the rise of tide, and partly by some heavy floe-pieces coming against it: she therefore shifted her birth a little to the northward of us, in order to avoid the danger of our being too near each other, for our situation was now extremely precarious. Several patients were about this time added to our sick-list, with lumbago and disordered bowels, occasioned by the incessant exertions and exposure that had of late been required of them. The weather continued what the Greenland sailors call "too fine," the wind being too light to blow the ice off the land, and enable us to pursue our way to the northward.

Our latitude was here 67° 11′ 30″; the longitude, by chronometers, 81° 24′ 37″; and the variation of the magnetic needle 70° 28′ 12″ westerly; being a very rapid increase in this phenomenon since our last observations on the ice. The back land seen from the ships hereabouts is about nine hundred feet above the sea, but shelving pretty gradually down towards the water. Here

and there occur some beaches of rounded stones; but the chief part of the shore presents a smooth gneiss rock, having numerous streams of water trickling over it. We were not, however, under the necessity of going even thus far for a supply of this necessary article, abundance of the purest kind being found on every large piece of ice at this season. 1822 July.

At half an hour before midnight, when it was just low water by our mark on the ice, a violent rush of tide suddenly came from the northward, threatening to carry us adrift with three stout hawsers a-head. This kind of occurrence which, in a smaller degree, was a very common one, added much to the anxious nature of this navigation; for as it happened indifferently at all times of tide, the most incessant attention and exertion were barely sufficient to enable us to obviate its effects. It was as easy to account for this irregularity, as it was difficult to resist its impetuosity. It frequently happened that some heavy floe-pieces, drifting down towards us, wedged themselves in between the grounded masses that lay a-head of the ships, where they produced the effect of turning the stream of tide by forming a temporary dam. By the continual pressure of the water these would often at length break, or otherwise disengage themselves, occasioning a violent rush of the tide through the now unobstructed passage, and frequently forcing themselves with extreme violence against the ships' bows.

As the time of high water approached, on the morning of the 12th, the land-ice began to float off, scarcely giving us time to cast off the hawsers from it, and leaving the whole line of the shore entirely bare. Having now nothing to steady us towards the shore, an eddy of the tide carried the Fury with some violence against the largest berg, nearly destroying one of our quarter-boats. For a few minutes her situation was a most disagreeable one, for the heavy floe-pieces now setting in from the offing caused the berg, alongside of which we were immoveably fixed, to take a roll outward, and a similar one in the opposite direction would inevitably have placed us in some very awkward predicament. Frid. 12.

As soon as the stream of ebb had cleared the shore a little, we cast off and shifted our birth one mile farther to the northward, being at noon, by observation, in lat. 67° 12′ 38″. At four P.M., the prospect having very much improved, we again made sail with a light air of south-easterly wind; and after running four or five miles in regular soundings, found the ice too close to proceed much farther, and at the same time observed an opening in the land, appearing like a river, a little beyond us. No land-ice being in sight, the

1822. July. signal was made to prepare to anchor; and in the mean time I left the ship in a boat to examine the soundings of the coast. On approaching the opening we found so strong a current setting out of it, as to induce me to taste the water which proved scarcely brackish, and a little closer in perfectly fresh, though the depth was from fourteen to fifteen fathoms. As this stream was a sufficient security against any ice coming in, I determined to anchor the ships somewhere in its neighbourhood; and having laid down a buoy in twelve fathoms, off the north point of the entrance, returned on board, when I found all the boats a-head endeavouring to tow the ships in-shore. This could be effected, however, only by getting them across the stream of the inlet to the northern shore; and here finding some land-ice, the ships were secured late at night, after several hours of extreme labour to the people in the boats.

Sat. 13. On the morning of the 13th, the ice being still close in with the land just to the northward of us, I determined on examining the supposed river in the boats, and at the same time to try our luck with the seines, as the place appeared a likely one for salmon. Accompanied by several of the officers, therefore, as well as by Captain Lyon in his own boat, I left the Fury at half-past eight A.M., and was soon followed by a second boat from each ship. Immediately on opening the inlet we encountered a rapid current setting outwards, and after rowing a mile and a half to the N.W.b.W., the breadth of the stream varying from one-third of a mile to four or five hundred yards, came to some shoal water extending quite across. Landing on the south shore and hauling the boats up above high-water mark, we rambled up the banks of the stream, which are low next the water, but rise almost immediately to the height of about two hundred feet. As we proceeded we gradually heard the noise of a fall of water; and being presently obliged to strike more inland, as the bank became more precipitous, soon obtained a fresh view of the stream running on a much higher level than before, and dashing with great impetuosity down two small cataracts. Just below this, however, where the river turns almost at a right angle, we perceived a much greater spray, as well as a louder sound; and having walked a short distance down the bank, suddenly came upon the principal fall, of whose magnificence I am at a loss to give any adequate description. At the head of the fall, or where it commences its principal descent, the river is contracted to about one hundred and fifty feet in breadth, the channel being hollowed out through a solid rock of gneiss. After falling about fifteen feet at an angle of 30° with a

vertical line, the width of the stream is still narrowed to about forty yards, and then, as if mustering its whole force previous to its final descent, is precipitated in one vast continuous sheet of water almost perpendicular for ninety feet more. So nearly, indeed, is the rock perpendicular, that we were enabled to let down a sounding lead and line, for the purpose of measuring its actual height, while a man descended from crag to crag with a second line attached to him, to see when the lead touched the water below. The dashing of the water from such a height, produced the usual accompaniment of a cloud of spray, broad columns of which were constantly forced up, like the successive rushes of smoke from a vast furnace, and on this, near the top, a vivid *iris* or rainbow was occasionally formed by the bright rays of an unclouded sun. "The roaring of the mountain-cataract," which constitutes a principal feature of the sublime in scenery of this magnificent nature, was here almost deafening, and as we were able to approach the head of the fall, even as close as a single yard, the very rock seemed to suffer a concussion under our feet. The basin that receives the water at the foot of the fall is nearly of a circular form, and about four hundred yards in diameter, being rather wider than the river immediately below it. The fall is about three-quarters of a mile above our landing-place, or two miles and a quarter from the entrance of the river. 1822. July.

After remaining nearly an hour, fixed as it were to the spot by the novelty and magnificence of the scene before us, we continued our walk upwards along the banks; and after passing the two smaller cataracts, found the river again increased in width to above two hundred yards, winding in the most romantic manner imaginable among the hills, and preserving a smooth and unruffled surface for a distance of three or four miles that we traced it to the south-west above the fall. What added extremely to the beauty of this picturesque river, which Captain Lyon and myself named after our mutual friend, Mr. Barrow, Secretary to the Admiralty, was the richness of the vegetation on its banks, the enlivening brilliancy of a cloudless sky, and the animation given to the scene by several rein-deer that were grazing beside the stream. Our sportsmen were fortunate in obtaining four of these animals; but we had no success with the seines, the ground proving altogether too rocky to use them with advantage or safety. The eider-ducks were here tolerably numerous, and we also met with some black-throated divers, golden plovers, and snow-buntings. On first entering the river two

1822. July. birds flew over our heads, appearing larger than eider-ducks, but with much less white on their backs and wings, and without the duck bill. On our return down the river Captain Lyon landed on the opposite side, for the purpose of making a drawing of the fall in the best point of view; and we then returned on board at thirty minutes past two P.M., after the most gratifying visit we had ever paid to the shore in these regions.

The entrance of this river lies in lat. 67° 18′ 05″, and in longitude, by chronometers, 81° 25′ 20″. We found at half tide from ten to twelve feet water in mid-channel, for a mile below the first shallows, and it then quickly deepens to as many fathoms. The banks of the river had still a good deal of snow cleaving to them in some places, and we narrowly escaped being swamped by a heavy mass falling off into the water, just after we had rowed away from the spot. The mineralogical character of the land in this neighbourhood continued the same as that last described.

We found on our return that a fresh southerly breeze, which had been blowing for several hours, had driven the ice to some distance from the land; so that at four P.M., as soon as the flood-tide had slackened, we cast off and made all possible sail to the northward, steering for a headland remarkable for having a patch of land towards the sea that appeared insular in sailing alongshore. As we approached this headland, which I named after my friend Mr. Edward Leycester Penrhyn, the prospect became more and more enlivening; for the sea was found to be navigable in a degree very seldom experienced in these regions, and, the land trending two or three points to the westward of north, gave us reason to hope we should now be enabled to take a decided and final turn in that anxiously-desired direction. As we rounded Cape Penrhyn at seven P.M., we began gradually to lose sight of the external body of ice, sailing close along that which was still attached in very heavy floes to this part of the coast. A headland, four leagues to the northward of Cape Penrhyn, was named after Mr. Robert Brown, a gentleman with whose knowledge and labours in the department of botany every naturalist is acquainted. Both wind and tide being favourable, our progress was rapid and unobstructed, and nothing could exceed the interest and delight with which so unusual an event was hailed by us. Before midnight the wind came more off the land, and then became light and variable, after which it settled in the north-west with thick weather for several hours.

Sun. 14. As, however, we had now a channel open between the ice and the land,

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not less than nine miles in breadth, we were enabled to stand off and on by the soundings, and even to make considerable progress to windward. The coast was here again nearly clear of land-ice, and wherever a patch did occur, the rest seemed to have been divided from it very lately, the margin being free from any appearance of rubbing or external pressure. The weather clearing up in the course of the forenoon, on the 14th, we perceived the land continued nearly its former trending, and that the navigable channel was from four to five leagues wide, the situation of the main body of the ice being clearly marked out by a bright "blink," in its usual arch-like form, overspreading the whole eastern horizon. Our northern extreme now in sight was a piece of low sandy-looking land, which had the appearance of being detached from the higher and darker land to the westward; and by comparing its situation with that of the island of Amitioke, laid down in the Esquimaux charts, it seemed probable that it was this station which we had now reached. A strip of the same kind of low land as that above mentioned was, also, observed to run along the continental shore, between the hills and the sea, for several leagues to the southward of our present station. It was here, indeed, that, in sailing to the northward, we began gradually to lose sight of the bold primitive mountains of the mainland, the intervening strip of low and yellow-looking shore becoming more and more broad, and the soundings off the coast altering their character at the same time as might be expected, but still preserving their regularity according to the distance from the land. We observed at noon in lat. 68° 02′ 45″, our longitude, by chronometers, being 82° 13′ 32″, by which it appeared that we had been favoured with an unobstructed run of fifty miles, an event of no trifling importance in this tedious and uncertain navigation. The sea-horses, of which we had occasionally seen a few for one or two days past, were here much more numerous; which rather served to confirm us in the belief that we were now off Amitioke, in the neighbourhood of which the Esquimaux had represented them as abundant. From this part of the coast northwards, as far at least as Igloolik, these animals are perhaps indeed as numerous as in any part of the world. 1822. July.

We continued beating to the northward under all sail during the night, the wind remaining steadily from that quarter with smooth water and extremely fine weather. Our latitude by observation at noon was 68° 22′ 21″, and the longitude by chronometers, 81° 56′ 55″. The land continued to be of the same character as before described, the hills at the back having now Mon. 15.

1822. July. receded to a considerable distance from the coast, and the low shore, after making a large bend, again projecting a good deal to the eastward.

In the course of this day the walruses became more and more numerous every hour, lying in large herds upon the loose pieces of drift-ice; and it having fallen calm at one P.M., we despatched our boats to endeavour to kill some for the sake of the oil which they afford. On approaching the ice our people found them huddled close to, and even lying upon, one another in separate droves of from twelve to thirty, the whole number near the boats being perhaps about two hundred. Most of them waited quietly to be fired at; and even after one or two discharges did not seem to be greatly disturbed, but allowed the people to land on the ice near them, and, when approached, shewed an evident disposition to give battle. After they had got into the water, three were struck with harpoons and killed from the boats. When first wounded they became quite furious, and one, which had been struck from Captain Lyon's boat, made a resolute attack upon her, and injured several of the planks with its enormous tusks. A number of the others came round them, also repeatedly striking the wounded animals with their tusks, with the intention either of getting them away or else of joining in the attack upon them. Many of these animals had young ones which, when assaulted, they either took between their fore-flippers to carry off, or bore away on their backs. Both of those killed by the Fury's boats were females, and the weight of the largest was fifteen hundred-weight and two quarters nearly; but it was by no means remarkable for the largeness of its dimensions. The peculiar barking-noise made by the walrus, when irritated, may be heard, on a calm day, with great distinctness at the distance of two miles at least. We found musquet-balls the most certain and expeditious way of despatching them after they had been once struck with the harpoon, the thickness of their skin being such, that whale-lances generally bend without penetrating it. One of these creatures, being accidentally touched by one of the oars in Lieutenant Nias's boat, took hold of it between its flippers and forcibly twisting it out of the man's hand, snapped it in two. They produced us very little oil, the blubber being thin and poor at this season, but were welcome in a way that had not been anticipated; for some quarters of this "marine beef," as Captain Cook has called it, being hung up for steaks, the meat was not only eaten, but eagerly sought after on this and every other occasion throughout the voyage, by all those among us who could overcome the prejudice arising chiefly from the dark colour of the flesh. In no other

respect that I could ever discover, is the meat of the walrus when fresh-killed in the slightest degree offensive or unpalatable. The heart and liver are indeed excellent. 1822. July.

While our boats were thus engaged a light air, that had sprung up from the southward, gradually increased, and as soon as our game was hoisted in we bore up under all sail along the land, which still continued so extremely low that as the sun got round ahead we could scarcely distinguish its points, and ran along chiefly guided by the soundings. In the course of the night we passed thousands of walruses, large herds of which were lying with their young on almost every loose piece of ice we saw. At midnight we were abreast of three small islets, which I consider to be the northernmost of those called by the Esquimaux "Ooglit," and so marked in the chart. We saw something like huts or tents upon them, but no other signs of inhabitants: we know however that they are at times a principal resort of many of the Esquimaux; and Iligliuk first directed our attention to them as the birth-place of her son.

After an unobstructed night's run, during which we met with no ice except in some loose "streams," the water became so much shoaler as to make it necessary to proceed with greater caution. Though the land along which we had been sailing had all been nearly equally low, we now began to decrease our soundings to nine, eight, and seven fathoms, and the water appeared much discoloured in some places. About this time also a great deal of high land came in sight to the northward and eastward, which, on the first inspection of the Esquimaux charts, we took to be the large portion of land called *Keiyuk-tarruoke* *, between which and the continent the promised strait lay that was to lead us to the westward. So far all was satisfactory; but after sailing a few miles farther it is impossible to describe our disappointment and mortification in perceiving an unbroken sheet of ice extending completely across the supposed passage from one land to the other. It is important here to notice that our chief disappointment arose, not from the mere presence of ice blocking up the desired passage, to which our most anxious hopes had long by anticipation been directed, but from the *nature* of the ice which constituted our present impediment. This consisted of a floe so level and continuous, that a single glance was sufficient to Tues. 16.

* This name being applied by the Esquimaux to several other portions of land, all of which are insular, or nearly so, it is probable that the word simply signifies an island.

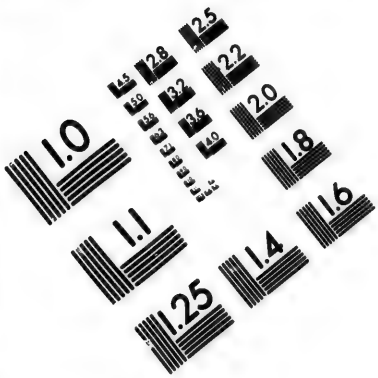
1822. July. assure us of the disagreeable fact, that it was the ice formed in its present situation during the winter, and still firmly attached to the land on every side. It was certain, from its continuous appearance for some miles that we ran along its edge, that it had suffered no disruption this season, which circumstance involved the necessity of our awaiting that operation which nature seemed scarcely yet to have commenced in this neighbourhood, before we could hope to sail round the north-eastern point of the American Continent.

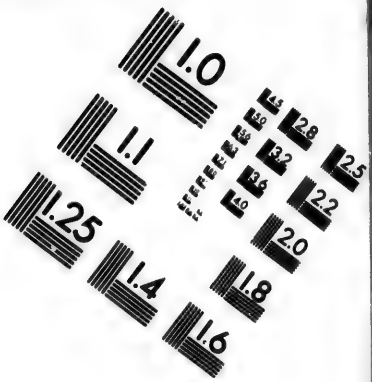
At thirty minutes past nine A.M. we observed several tents on the low shore immediately abreast of us, and presently afterwards five canoes made their appearance at the edge of the land-ice intervening between us and the beach. As soon therefore as we had satisfactorily made out the position and state of the ice, I left the Fury in a boat, accompanied by some of the officers, and being joined by Captain Lyon went to meet the Esquimaux, being extremely desirous of learning from them all the particulars of our situation. We soon found by the cautious manner in which the canoes approached us, that our Winter Island friends had not yet reached this neighbourhood. In a few minutes after we had joined them, however, a few presents served to dissipate all their apprehensions, if indeed people could be said to entertain any who thus fearlessly met us half way; and we immediately persuaded them to turn back with us to the shore. Being under sail in the boat, with a fresh breeze, we took two of the canoes in tow and dragged them along at a great rate, much to the satisfaction of the Esquimaux, who were very assiduous in piloting us to the best landing-place upon the ice, where we were met by several of their companions and conducted to the tents. Before we had reached the shore however we had obtained one very interesting piece of information, namely, that it was Igloolik on which we were now about to land, and that we must therefore have made a very near approach to the strait which, as we hoped, was to conduct us once more into the Polar Sea.

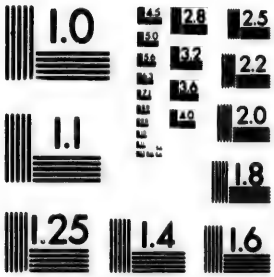
We found here two divisions of tents, there being eleven where we landed, and five more about half a mile to the northward. They were situated on a low narrow bank, not more than twenty feet above the level of the sea, and running along the island parallel to the beach, from which it is distant only a few yards. Within this bank were numerous ponds of water and much swampy ground, and beyond these, at the back the island gradually rises to a somewhat greater height. By the time we reached the tents

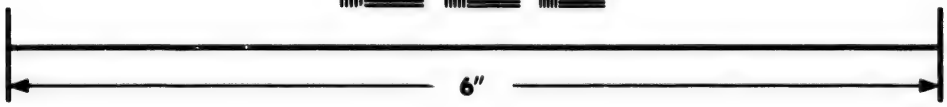
we were surrounded by a crowd of men, women, and children, all carrying some trifling article which they offered in barter, a business they seemed to understand as well, and to need much more than their countrymen to the southward. It is pleasing as well as remarkable to find these people, even at our first intercourse with them, always appearing to entertain a sort of intuitive idea of the friendly disposition of the Kabloonas towards them, and of their wish as well as their ability to enrich them. No sooner therefore is the first of these ideas confirmed by kind and friendly behaviour than they begin to try what they can get from their new visitors. We were of course not backward in promoting a good understanding by means of such presents as we had brought with us, but they seemed to have no idea of our giving them any thing *gratis*, always offering some trifle in exchange, and expressing hesitation and surprise when we declined accepting it. This was not to be wondered at among people who scarcely know what a free gift is among themselves; but they were not long in getting rid of all delicacy or hesitation on this score. 1822. July.

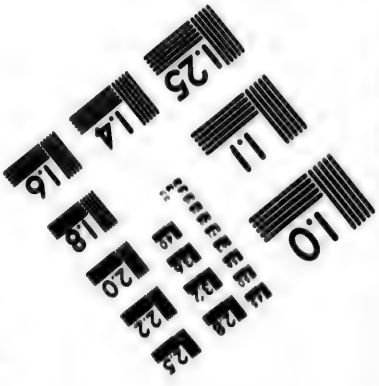
The tents, which varied in size according to the number of occupants, consisted of several seal and walrus skins, the former dressed without the hair, and the latter with the thick outer coat taken off, and the rest shaved thin so as to allow of the transmission of light through it. These were put together in a clumsy and irregular patchwork, forming a sort of bag of a shape rather oval than round, and supported near the middle by a rude tent-pole composed of several deer's horns or the bones of other animals lashed together. At the upper end of this is attached another short piece of bone at right angles, for the purpose of extending the skins a little at the top, which is generally from six to seven feet from the ground. The lower part of the tent-pole rests on a large stone to keep it from sinking into the ground, and being no way secured, is frequently knocked down by persons accidentally coming against it, and again re-placed upon the stone. The lower borders of the skins are held down by stones laid on them outside; and to keep the whole fabric in an erect position, a line of thong is extended from the top, on the side where the door is, to a larger stone placed at some distance. The door consists merely of two flaps, contrived so as to overlap one another, and to be secured by a stone laid upon them at the bottom. This entrance faces the south or south-east; and as the wind was now blowing fresh from that quarter and thick snow beginning to fall, these habitations did not impress us at first sight with a very favourable idea of the comfort and accommodation











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1822. July. afforded by them. The interior of the tents may be described in few words. On one side of the end next the door is the usual stone lamp resting on any other rough stones, with the *ootkooseek* or cooking-pot suspended over it; and round this are huddled together in great confusion the rest of the women's utensils, together with great lumps of raw sea-horse flesh and blubber, which at this season they enjoyed in most disgusting abundance. At the inner end of the tent, which is also the broadest, and occupying about one-third of the whole apartment, their skins are laid as a bed, having under them some of the *andromeda tetragona* when the ground is hard, but in this case placed on the bare dry shingle. Comfortless as these simple habitations appeared to us in a snow-storm, they are in general not deficient in warmth as summer residences; and being easily removed from place to place, they are certainly well suited to the wants and habits of this wandering people. When a larger habitation than usual is required they contrive, by putting two of these together, to form a sort of double tent, somewhat resembling a marquee, and supported by two poles. The difference between these tents and the one I had seen in Lyon Inlet the preceding autumn, struck me as remarkable, these having no *wall* of stones around them, as is usual in many that we have before met with, nor do I know their reason for adopting this different mode of construction.

Even if it were not the natural and happy disposition of these people to be pleased, and to place implicit confidence wherever kind treatment is experienced, that confidence would soon have been ensured by our knowledge of their friends and relations to the southward, and the information which we were enabled to give respecting their late and intended movements. This, while it excited in them extreme surprise, served also at once to remove all distrust or apprehension, so that we soon found ourselves on the best terms imaginable. In return for all this interesting information, they gave us the names of the different portions of land in sight, many of which being recognised in their countrymen's charts, we no longer entertained a doubt of our being near the eastern entrance of the strait to which all our hopes were directed. We now found also that a point of land in sight, a few miles to the southward of the tents, was near that marked *Ping-ĭt-kă-lĭk* on Ewerat's Chart, and that therefore the low shore along which we had been constantly sailing the preceding night, was certainly a part of the Continent.

By the time we had distributed most of our presents, and told some long stories about Winter-Island, to all which they listened with eager delight and

interest, we found the weather becoming so inclement as to determine us to make the best of our way on board, and to take a more favourable opportunity of renewing our visit to the Esquimaux. The weather became more severe and the wind drew more directly upon the ice, as we rowed out, so that the signal guns fired occasionally by the ships to point out their situation to us, were less and less distinctly heard. After pulling out for an hour and a half, Captain Lyon, who had a boat's crew composed of officers, and had unfortunately broken one of his oars, was under the necessity of returning to the shore. My anxiety lest the ships should be ventured too near the shore, from a desire to pick up the boats, induced me to persevere an hour longer, when the wind having increased to a gale, which prevented our hearing any of the guns, I reluctantly bore up for our former landing-place. So rapidly, however, had the sea broken up the whole margin of the land-ice, that this could no longer be recognised, and it was with our utmost exertions that we at length succeeded in reaching any part of the fixed floe, in consequence of the quantity of loose and drifting masses now occupying its margin. In forcing through these, the boat was stove by a sharp corner of a piece of ice, and was full of water up to the thwarts when we reached the grounded ice. After repairing this damage and securing the boat, we walked to the shore, where I was happy to see the Hecla's boat safely hauled up. Captain Lyon and his party having quartered themselves at the southern tents, we took up our lodgings at the others, to which we were welcomed in the kindest and most hospitable manner. That we might incommode the Esquimaux as little as possible, we divided into parties of two in each tent, though they would willingly have accommodated twice that number. Immediately on our arrival, they offered us dry boots, and it was not long before we were entirely "rigged out" in their dresses, which, thoroughly drenched as we were by the sea, proved no small comfort to us. With these, and a seal-skin or two as a blanket, we kept ourselves tolerably warm during a most inclement night; and the tents, which but a few hours before we had looked upon as the most comfortless habitations imaginable, now afforded us a sufficient and most acceptable shelter.

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The evening was passed in dealing out our information from the southward, and never did any arrival excite more anxious inquiries than those we were now obliged to answer. So intimate was the knowledge we possessed respecting many of their relationships, that by the help of a memorandum book in which these had been inserted, I believe we almost at times excited a degree

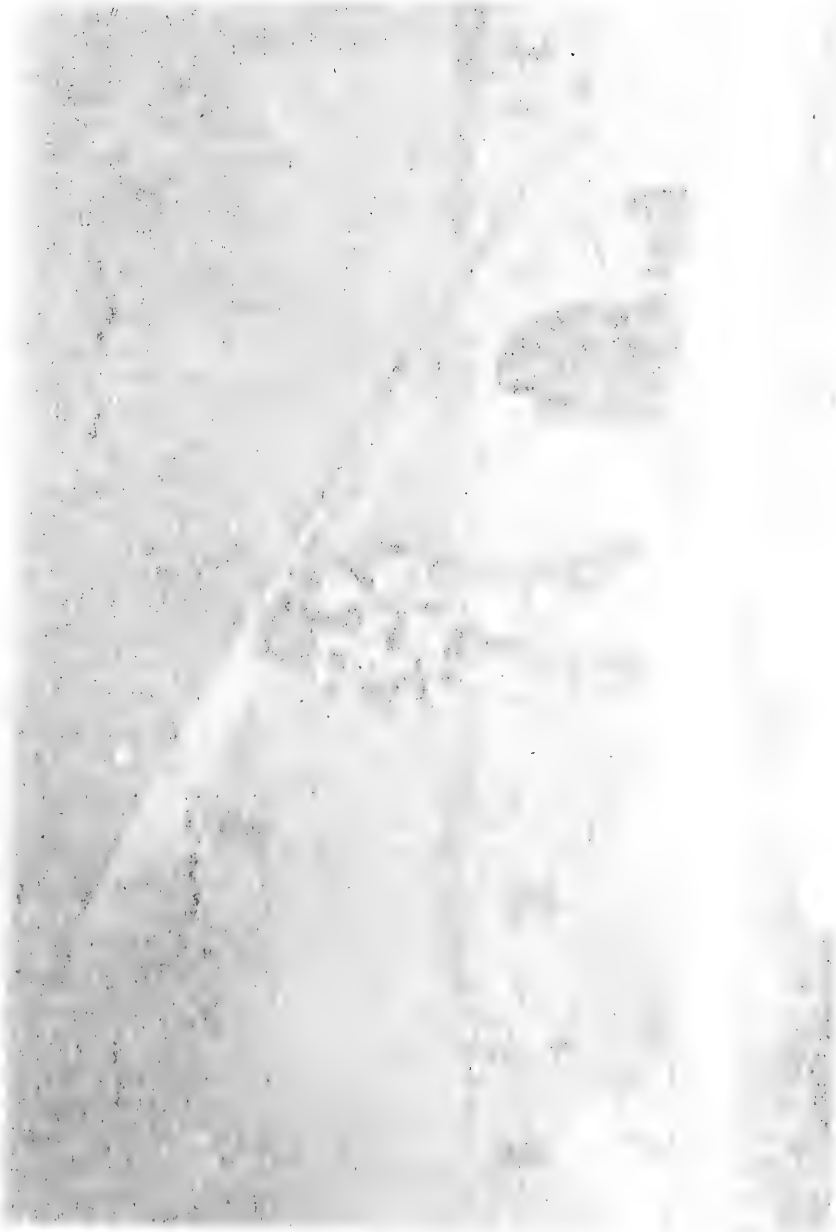
1822. July. of superstitious alarm in their minds. This sort of gossip and incessant chattering and laughing continued till near midnight, when the numerous visitors in our tents began to retire to their own and to leave us to our repose.

Wed. 17. Awaking at four A.M. on the 17th, I found that the weather had moderated and cleared up and the ships soon after appearing in sight; we called our boat's crew up, and sent one of the Esquimaux round to the other tents to inform Captain Lyon of our setting out. Several of the natives accompanied us to our boat which they cheerfully helped us to launch, and then went round to another part of the beach for their own canoes. A thick fog had come on before this time, notwithstanding which however we managed to find the ships, and got on board by seven o'clock. Five canoes arrived soon after, and the wind being now light and variable, we lay to for an hour to repay our kind friends for the hospitable reception they had given us. After supplying them abundantly with tin canisters, knives, and pieces of iron-hoop, we hauled to the north-eastward to continue our examination of the state of the ice, in hopes of finding that the late gale had in this respect done us some service.

Lieutenant Nias informed me on my return that the ships had, as I apprehended, experienced considerable difficulty in beating off the shore and the ice, upon which the gale had directly blown with a good deal of sea. The Hecla had indeed been once driven upon the margin of the floe, where she remained in a very awkward situation for half an hour, and then fortunately effected her escape; after which by carrying a press of canvass both ships succeeded in gaining an offing, though not without much fatigue from constant wet and exertion.

The fog continued with a light and variable easterly wind during the rest of the day, so that we could see but a short distance. As far as we could distinguish at intervals, however, the land-ice appeared to stretch quite across the mouth of the strait as before. The soundings were regular in the offing, varying from thirty-six to fifty-five fathoms according to our distance from the

Thur. 18. island. On the 18th the weather was at times sufficiently clear to allow us a glimpse of the eastern land, a part of which appeared to be composed of islands lying off the higher and continuous shore of Keiyuk-tarruoke, and as it was possible that this shore might be gained by sailing round these and getting within them, I determined on making the attempt; and acquainting Captain Lyon with my intentions, appointed Igloolik as our rendezvous in case of separation. This latter contingency seemed now the more likely as



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well in consequence of the continuance of the foggy weather, as on account of the sea being entirely free from drift-ice in this neighbourhood. 1822. July.

We continued to beat to the south-eastward during the night, the weather being less foggy, but the atmosphere still moist and uncomfortable. In the first watch we came to a line of tangle-weed floating on the surface, extending many miles in length, and marking by its position the margin of a strong tide setting the ships towards the islands round which we were trying to beat. We frequently shoaled in a single cast from fifteen to eight and a half fathoms, and were several times obliged to keep before the wind to deepen the water. This tide appeared the more striking, as near Igloolik we could not perceive the ships to be influenced by any stream or current: here however it proved so strong that we could make little or no way against it till after midnight.

The favourable tide continued till about six A.M. on the 19th, when we had made considerable progress, but without much hope of succeeding in our project of getting within the islands. This, as we advanced, proved more and more impracticable, as we found that the land-ice still occupied all the intervals between the islands as well as between them and Keiyuk-tarruoke, and in many places still projected also a mile or two to seaward. In the course of the forenoon the weather cleared up, and at noon, having still continued to sail to the eastward, we observed in lat. 69° 25′ 05″, the longitude, by chronometers, being 79° 57′ 10″. In this situation a great deal of land chiefly low, and much of it apparently insular, was in sight to the eastward; but the distance at which we were kept by the ice prevented our fairly examining it. In the evening, however, having run as far to the eastward as the longitude of 79° 22′ 16″ by good observations, we found ourselves pretty well embayed, the land extending as far round as a S.b.E. bearing. The ice was here also for the first time loose and detached, occasionally streaming off from the land, but not open enough to allow of our working among it. In hopes therefore of its being entirely drifted from the land by the northerly breeze that had lately sprung up, we lay to during the night, watching for an opportunity to get within it, being determined to leave nothing undone that might eventually facilitate our progress alongshore to the westward. The soundings were here small, varying rapidly as the ships were swept over the ground by the tide, but seldom amounting to twenty fathoms. The bottom was covered with broken shells, of which great numbers always came up with the lead. Having a deep cast of thirty-five fathoms, Dr. Marcet's Frid. 19.

1822. July. bottle was sent down near the bottom, where the temperature of the water was found to be $31\frac{3}{4}°$, that of the surface at the time being $34\frac{3}{4}°$ by the same thermometer. A great number of walruses were lying on pieces of ice, and a few king-ducks and silvery gulls flying near the ships.

Sat. 20. On the morning of the 20th great quantities of ice continued to stream off from the land, but as it was much too close to allow us to work in-shore through it, we were under the necessity of standing back a little to the westward, to avoid hampering the ships, and in hopes of the ice thus drifting past us to the southward. We first, however, hove to for half an hour to obtain upon a floe of ice the true variation, which proved to be 79° 20′ 52″ westerly, and then pushed to the westward till we found the ships a little more at liberty. In the course of this day's navigation we met with many large floes, some of which appeared to have been recently detached from the land.

I cannot delay any longer to remark how valuable the geographical information received from the Esquimaux had now proved to us, especially at this particular crisis. On our arrival off Igloolik we had suddenly been arrested in our progress by an impenetrable barrier of ice, appearing to occupy the entrance of a large inlet or strait leading in the very direction in which it was our business to seek and to force a passage. On tracing the northern land as far as the ice would permit, we now had it in sight reaching over nearly the whole extent of the eastern horizon, and almost to a south bearing, rendering it at least as likely as not that it would be found to continue as far as Fox's Farthest, or even to join the land in that neighbourhood. It is true that, in any case, nothing short of actual examination was to be deemed conclusive or admissible by us, and that therefore it was our business to wait till such examination could be effected: but who that can place himself for a moment in our situation will fail to appreciate the value of that information, which left no doubt of the geographical position of the lands before us, as respected the existence of the strait, and thus saved us the inconceivable suspense and anxiety which entire ignorance on this subject would not fail to have occasioned?

Sun. 21. Finding that a further examination of the eastern lands could not at present be carried on, without incurring the risk of hampering the ships at a time when, for aught that we knew, the ice might be breaking up at the entrance of the strait, we stood back to the westward, and, having fetched near the middle of Igloolik, were gratified in observing that a large "patch" of the

fixed ice* had broken off and drifted out of sight during our absence. At nine A.M. we saw eleven canoes coming off from the shore, our distance from the tents being about four miles, where our soundings were from eleven to twelve fathoms, having shoaled gradually in the last two or three miles from forty-two to that depth. As the new line of ice left us something to examine, we bore up along its edge for that purpose, as well as to avoid the disturbance of our friends, who were approaching us with loud shouts during the time of divine service. After this the wind backed more to the southward, and thick snow coming on so as to prevent our seeing ahead, we hove to for the canoes which had in the mean time communicated with the Hecla. We now hoisted two of them on board, their owners *Kā-kĕe* and *Nŭ-yăk-kă* being very well pleased with the expedient to avoid damaging them alongside. Above an hour was occupied in endeavouring to gain additional information respecting the land to the westward, and the time when we might expect the ice to break up in the strait, after which we dismissed them with various useful presents, the atmosphere becoming extremely thick with snow, and threatening a repetition of the same inclement weather as we had lately experienced. The snow ceasing, however, in the course of the evening we found ourselves close to a small island called by the Esquimaux *Seĕ-ŏ-wăk*, and laid down by Iligliuk in her chart with astonishing precision. This little island which, from its extreme lowness, and being situated just in the middle of the mouth of the strait, is somewhat dangerous, subsequently received the name of Tern Island, from the immense number of those birds found upon it. It is almost entirely surrounded with shoals, particularly on its southern and eastern sides, but attention to the leads is sufficient to prevent danger, and the grounded ice is in general a tolerably safe beacon. The wind having now veered to the northward and westward, with clear weather, I directed the ships to be made fast to the fixed ice between Tern Island and another to the northward of Igloolik, this being a favourable situation for observing any alteration that might take place. I was desirous moreover of obtaining good observations for our position and angles for the survey, which the state of the weather had prevented our doing since our arrival off the strait.

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About this time we began to insert in the log the *true* courses only, and to conduct the ships by a kind of dial-plate purposely constructed, of which

* The expression "fixed ice" appearing better suited to our present obstacle than that of "land ice," I shall in future adopt it in speaking of this barrier.

1822. July. the sight-vane was kept constantly directed towards the sun when that object was visible, and set according to its azimuth at the corresponding apparent time. This method was now resorted to, not so much on account of any increased sluggishness in the traversing of the compasses, though this indeed was at times considerable, as from the extreme practical inconvenience of applying to compass-courses a large and ever-varying correction for the effect of local attraction on different directions of the ship's head. We were not at this time aware that the needles were, in this neighbourhood, subject to be influenced by other local attractions than those produced by the iron in the ships.

We lay here in fifty-two fathoms, on a bottom of soft greenish mud. Some water brought up from a depth of fifty fathoms was at the temperature of 31½°, that of the surface being 30¼° by the same thermometer, and of the air 32°. We had now the first opportunity of closely examining the thickness of the ice that opposed so complete a barrier to our progress to the westward, and were not a little pleased to find that it scarcely exceeded a foot in any part, and was generally much thinner than this, besides being full of pools of water that were rapidly dissolving it into holes. We now also remarked that the tides were extremely small in this place, compared with those to which we had lately been accustomed; and it was evident that to this circumstance might partly at least be attributed the late retention of the ice, which must have been immediately broken up by a stream of any considerable rapidity. The wind freshening up strong from the north-west, with a return of thick weather, we escaped, by making fast to the ice, a very inclement and disagreeable night.

Mon. 22. The weather cleared up sufficiently on the 22d to allow us to obtain observations, though the ice was found to be so much in motion that we could only use the instruments by removing them several hundred yards from the sea. The margin of the floe had a waving motion with the swell, which I have before mentioned as peculiar to thin salt-water ice. We were here in lat. 69° 33′ 27″, and in longitude, by chronometers, 81° 09′ 13″; the dip of the magnetic needle being 87° 37′ 09″; and the variation 82° 21′ 51″ westerly. The weather clearing still more in the afternoon we had the first distinct, though still very distant, view of the land to the westward, in which a number of breaks and openings appeared, leaving us in doubt of the exact situation of the strait, which lay somewhere between a West and N.W.b.W., bearing from our present station. The wind becoming light

and variable in the evening we cast off from the ice, and soon after Mr. Ross was so fortunate as to obtain a whole flock of the *Larus Sabini*, thus confirming the accuracy of Iligliuk's information respecting this rare and elegant bird. They were in company with a number of tern and boatswains, but still keeping in a separate flock. We did not see many walruses in the offing; those animals appearing to prefer the shoaler water immediately off Igloolik, where they are found in such numbers as to afford an easy, abundant, and luxurious subsistence to the Esquimaux. In the offing we more frequently met with seals, and generally of a large size, lying upon the ice; but these creatures are so watchful, that it is difficult to approach them within gun-shot before they tumble themselves into their holes. 1822. July.

On the 23d we went on shore to pay another visit to the Esquimaux, who came down on the ice in great numbers to receive us, repeatedly stroking down the front of their jackets with the palm of the hand as they advanced, a custom not before mentioned, as we had some doubt about it at Winter Island, and which they soon discontinued here. They also frequently called out *tima*, a word which, according to Hearne, signifies in the Esquimaux language, "What cheer!" and which Captain Franklin heard frequently used on first accosting the natives at the mouth of the Copper-Mine River. It seems to be among these people a salutation equivalent to that understood by these travellers, or at least some equally civil and friendly one, for nothing could exceed the attention which they paid us on landing. Some individual always attached himself to each of us immediately on our leaving the boat, pointing out the best road, and taking us by the hand or arm to help us over the streams of water or fissures in the ice, and attending us wherever we went during our stay on shore. Tues. 23.

The day proving extremely fine and pleasant, every thing assumed a different appearance from that at our former visit, and we passed some hours on shore very agreeably. About half a mile inland of the tents, and situated upon the rising ground beyond the swamps and ponds before mentioned, we found the ruins of several winter habitations, which upon land so low as Igloolik, formed very conspicuous objects at the distance of several miles to sea-ward. These were of the same circular and dome-like form as the snow-huts, but built with much more durable materials; the lower part or foundation being of stones, and the rest of the various bones of the whale and walrus, gradually inclining inwards and meeting at the top. The crevices, as well as the whole of the outside, were then covered

1822. July. with turf which, with the additional coating of snow in the winter, serves to exclude the cold air very effectually. The entrance is towards the south, and consists of a passage ten feet long, and not more than two in height and breadth, built of flat slabs of stone, having the same external covering as that of the huts. The beds are raised by stones two feet from the ground, and occupy about one-third of the apartment at the inner end, and the windows and a part of the roofs had been taken away for the convenience of removing their furniture in the spring. It was a natural inference from the nature of these habitations that these people, or at least a portion of them, were constant residents on this spot, which indeed seemed admirably calculated to afford in luxurious profusion all that constitutes Esquimaux felicity. This however did not afterwards prove to be absolutely the case; for though Igloolik, (as perhaps the name may imply,) is certainly one of their principal and favourite rendezvous, yet we subsequently found the island entirely deserted by them at the same season.

In every direction around the huts were lying innumerable bones of walruses and seals, together with skulls of dogs, bears, and foxes, on many of which a part of the putrid flesh still remaining sent forth the most offensive effluvia. We were not a little surprised to find also a number of human skulls lying about among the rest, within a few yards of the huts; and were somewhat inclined to be out of humour on this account with our new friends, who not only treated the matter with the utmost indifference, but on observing that we were inclined to add some of them to our collections, went eagerly about to look for them, and tumbled, perhaps the craniums of some of their own relations, into our bag without delicacy or remorse. In various other parts of the island we soon after met with similar relics no better disposed of; but we had yet to learn how little pains these people take to place their dead out of the reach of hungry bears or anatomical collectors.

We found here a very abundant vegetation, which is much favoured by the numerous streamlets and ponds, as well as by the manure afforded by the permanent residence of the Esquimaux near this spot. In some places were many hundred yards of square space covered with moss of a beautiful soft velvet-like appearance, and of a bright green colour such as I never saw before; and perhaps indeed moss cannot well be more luxuriant. As I shall have abundant opportunities of speaking more in detail of the natural productions of this island, with which we unfortunately became much better

acquainted than we wished, I shall only add in this place, that the mineralogical character was essentially different from that last examined to the southward, consisting almost entirely of innumerable fragments of thin schistose limestone, on many of which are fossil impressions, and in others the cellular structure usually exhibited by madreporite. For the reasons just stated I shall also defer speaking of the geographical position of Igloolik, and of the observations now made here on the tides; a cursory and unconnected notice or two on this subject being of little or no importance, where more ample information can be obtained. 1822. July.

The account we gave of our visit to the shore naturally exciting the curiosity and interest of those who had not yet landed, and the ice remaining unchanged on the 24th, a couple of boats were despatched from each ship with a large party of the officers and men, while the ships stood off and on. On the return of the boats in the evening, I found from Lieutenant Reid that a new family of the natives had arrived to-day from the mainland, bringing with them a quantity of fine salmon and venison, of which some very acceptable samples were procured for both ships. Being desirous of following up so agreeable a kind of barter, I went on shore the next morning for that purpose, but could only procure a very small quantity of fish from the tent of the new-comer, a middle-aged, noisy, but remarkably intelligent and energetic man, named *Tōolĕmăk*. After some conversation, we found from this man that in order to obtain a fresh supply of fish, three days would be required; this prevented my putting in execution a plan of going out to the place where the fish were caught, which we at first understood to be near at hand. We therefore employed all our eloquence in endeavouring to procure a supply of this kind by means of the Equimaux themselves, in which we at length so far succeeded that Toolemak promised, for certain valuable considerations of wood and iron, to set out on this errand the following day. Wed. 24. Thur. 25.

The weather being remarkably fine and pleasant, we amused ourselves for an hour or two in paddling about in canoes in a small lake, and soon found that the art is not so difficult to acquire as their unsteadiness at first inclines one to suppose. A great deal undoubtedly depends on the habit of keeping the body in a central and erect position, and care should also be taken to avoid touching the rim of the hole, because this, from its height, acts as a lever in oversetting the canoe. They are by no means, however, so "crank" as they appear, easily coming down to their "bearings," but then requiring

1822. July. considerable force to press them farther. The greatest difficulty we experienced in the management of them was to prevent "broaching to" when going before the wind, the rower sitting so near the centre as to exert his power to great disadvantage in turning their heads in any direction. Paddling head to wind is by far the most easy and pleasant. Nothing is more likely to overset a canoe than what we call "catching a crab" with the paddle, which is therefore to be carefully avoided; but I believe that any seaman might, after a few months' practice, render himself as expert as the Esquimaux in the management of these frail coracles, at least for every purpose to which they are commonly applied.

Shortly after I returned on board Captain Lyon made the signal to "communicate with me," for the purpose of offering his services to accompany our fisherman on his proposed journey, attended by one of the Hecla's men; to which, in the present unfavourable state of the ice, I gladly consented, as the most likely means of procuring information of interest during this our unavoidable detention. I therefore gave Captain Lyon an order to this effect, directing his attention to the acquirement of geographical and natural knowledge; and to prevent the possibility of occasioning detention to the Expedition, limiting the time of his absence to the morning of the 30th. Being equipped with a small tent, blankets, and four days' provision, Captain Lyon left us at ten P.M., when I made sail to re-examine the margin of the ice.

Frid. 26. We had a great deal of rain and sleet on the 26th, which we regretted on Captain Lyon's account, but considered favourable for the dissolution of the ice. On reaching the margin of the floe a slight difference was perceptible as to its extent sea-ward, which was to be attributed to its breaking off by piece-meal, an operation that was continually though slowly going on, while its general position and continuity from side to side of the strait remained as before. The sea was still entirely free from drift or moving ice as far as we could distinguish from the mast-head in clear weather; and we now began to remark that, whenever a mass was separated from the fixed floe, it drifted away to the south-east and never returned. The consequence was that this portion of the sea was at all times unincumbered, and more constantly and completely navigable than any part of the polar regions in this latitude we had ever visited. Of the cause of this extraordinary fact we were as yet entirely ignorant.

In the afternoon, the wind continuing to the north-eastward with moist and unpleasant weather, we stood towards Tern Island, and after sending a

boat in to sound about the heavy ice near it, made fast in six fathoms, at the distance of one mile from the shore, to which a party was then despatched to examine this little spot. They found it occupied by innumerable tern, and the eggs and young of that bird were met with at every step. On the following day, a number of officers and men landed from each ship to procure some of these birds, which, after skinning and purging them in salt water, were considered a very acceptable addition to our sea-pies. Flying about in vast numbers, they became an easy prey to our sportsmen by the boldness with which they came down in defence of their eggs and young. A little Scotch terrier belonging to Lieutenant Reid was the object of their particular attack, and they fearlessly pounced upon him two or three at a time, and pecked his back before he was aware of it. The nest in which the eggs were deposited, and each of which generally contained two, consisted merely of a small indentation in the ground without any down, feathers, or other materials. The colour of the eggs is a brownish-green, with dark brown irregular spots all over them, but in the same nest one is sometimes much more green than the other, so that it might be taken for the egg of a different bird. Three eggs were rarely met with in the same nest. Besides these we found a great many ducks' eggs, supposed to be those of the eider from the down which formed the nest, and which was usually laid between two stones. These eggs had been still more numerous than at present; for the Esquimaux, knowing the season in which they would be in perfection, had already been before us on the island, and on one spot on the beach above a hundred of these egg-shells were lying, as a memorial of a recent feast. In some of the ducks' nests we found springes or snares for catching the old bird, consisting of thin flexible strips of whale-bone, with a running eye at one end and the other fastened to a stone. Some of these were double, the nooses being laid near each other in the middle of the nest. The usual number of eggs in one duck's nest was two or three; but four were found in a single instance. We had taken it into our heads that this island would be found the grand breeding-place of the *Larus Sabini*, but though these were in consequence eagerly looked after, only a single individual of that species was seen and killed by Mr. Elder; it was flying in company with innumerable tern.

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Sat. 27.

Tern Island is about three quarters of a mile in length from N.W. to S.E.; it is extremely narrow, and in no part more than twenty or five and twenty feet above the level of the sea. Through the middle of it runs a lagoon

1822. July. communicating with the sea, and therefore admitting the tide, notwithstanding which we were forcibly struck with the fact, that an immense mass of consolidated drift-snow still remained undissolved in it. This circumstance may perhaps appear too trifling to have been noticed in so particular a manner; but to us who anxiously watched every operation connected with the annual process of dissolution, on which all our hopes depended, it could not fail to convey an impression of being a very unusual occurrence, and to imply either a very backward summer or an extraordinary accumulation of snow in the winter. To one or both of these I am still inclined very confidently to attribute it; for in the locality of this island, low and open as it is to the sun's rays, and in the immediate neighbourhood of a more extensive open sea than any known in this latitude, there is certainly every thing that would, *à priori*, have been considered calculated to accelerate rather than to retard the process of dissolution.

The mineralogical character of this islet is similar to that of Igloolik; but among the pieces of limestone of which it is principally composed, lumps of granite, gneiss, hornblende and mica-slate were also numerous, and I picked up a piece of common iron pyrites. There is a good deal of vegetation also in some parts, and our plant-collectors derived considerable amusement from their walk. We observed a number of roots of scurvy-grass *(cochlearia fenestrata)* growing on the beach where nothing else would, but the leaves were as yet scarcely developed, and therefore of no service to us. Some Esquimaux circles of stones were observed in two or three places on the island, which shewed that they occasionally resort to it; but it is not much frequented by them.

Having seen all that this little spot produced, we sailed over to the eastern islands, three of which are conspicuous as forming one side of the entrance of the strait, and are laid down with extraordinary precision in Ewerat's chart already inserted in this narrative, (No. 3.) These islands, which I named the Calthorpe Islands, out of respect to Lord Calthorpe, had attracted our attention by two of them appearing at a distance to be of the primitive formation, which had for some time forsaken us. Finding that a great deal of ice had been detached and drifted away since our last attempt in this neighbourhood, we were now enabled to approach the middle island of the three as near as the depth of water would admit; and in the evening made the ships fast to the fixed ice in twelve fathoms, at the distance of a long mile from the shore. The depth was regular and the bottom good in every part.

On the 28th, after divine service, we landed on the middle island, which was found to be composed of gneiss rock, and in every respect a counterpart of Winter Island in its other mineral productions. To save Iligliuk's credit, who had described these islands as inhabited, we found the south end covered with winter huts, of precisely the same kind and materials as those described at Igloolik, but so overgrown with long rich grass as to indicate their having been two or three years deserted. Numberless skulls and bones were lying about them as usual, and some stone lamps and glass beads had also been left among the ruins. Leading from the huts towards the highest part of the island, was a curious path made by the natives, two feet in width, and formed by removing the stones in places where they were naturally abundant, and where the ground was bare, by placing two regular and parallel rows at that distance apart. The only conjecture we could form respecting the use of this artificial road was that it might be intended for a deer-path, (those animals preferring a regular or beaten track to any other,) by which means the Esquimaux might perhaps kill them from their usual ambush of stones. From the top of this island, which is not more than a mile in length, we obtained a commanding view and good angles of all the surrounding lands. Immediately to the eastward appeared a piece of low land that seemed insular, with a great extent of coast of the same kind at the back of it, which we could trace till lost in the distance. Only two islands of the four more immediately forming this group are of the high and rugged primitive formation, the outer one, which from the quantity of sea-weed floating near it, we distinguished by the name of *Tangle Island*, being low and of the same character as Igloolik, with much shoal water about it. Large flocks of long-tailed, king, and eider ducks were about these islands, but all too wild to be approached, and we procured no game by this visit to the shore. 1822. July. Sun. 28.

It blew fresh from the eastward during the night, with continued rain, all which we considered favourable for dissolving and dislodging the ice, though very comfortless for Captain Lyon on his excursion. The weather at length clearing up in the afternoon, I determined on beating to the eastward, to see if more of the land in that direction could be made out than the unfavourable position of the ice would permit at our last visit. In the mean time, I directed Lieutenant Hoppner to stand over to Igloolik in the Hecla, to see if Captain Lyon had returned, and if not, to leave an officer with a small party at the tents, with signals to announce his arrival. The Fury then made sail Mon. 29.

1822. July. and stood to the eastward, encountering the usual strength of tide off the south-west point of Tangle Island, and soon after a great quantity of heavy drift ice apparently not long detached from some land. In endeavouring to beat between this and the island, which is very shoal on that side, we gradually decreased our soundings every tack, till we had only four fathoms and a half, at the distance of a full mile from the shore. To avoid the risk of grounding in this rapid tide-way, we were then obliged to bear away for a narrow "neck" to leeward, through which the ship was at length forced, and we soon got into clear water beyond.

Tues. 30. Advancing to the eastward during the night we again came to quantities of loose ice on the morning of the 30th, through which we sailed for several hours. This ice was of the heavy "hummocky" kind, but all in small detached masses, the natural effect of the strong current by which it was here hurried to and fro. My object in endeavouring to examine as much as possible of the land in this direction, was not confined simply to a general desire of increasing our geographical knowledge by all the means within our reach, but extended also to a possibility of our being obliged after all to pursue the circuitous route round Keiyuk-tarruoke, should unforeseen obstacles eventually oppose our progress to the westward, through the more direct channel now before us. It was not without extreme mortification therefore that we once more found the unfavourable state of the ice, combining with the uniform lowness of the land in this neighbourhood, to baffle all our endeavours in pursuit of this object. Having before eight A.M. been obliged to heave to on account of the closeness of the ice, we could distinguish what we considered the extreme point of land stretching as far as a N.½E. bearing, and to the eastward of this was an apparent opening occupying about four points of the compass. Next to the southward was a large smooth-topped portion of low land that appeared insular, but so choked on every side with ice that we could not get nearer to it than three or four leagues, being in lat. 69° 26′ 40″, longitude, by chronometers, 79° 19′ 44″, and having no soundings with thirty fathoms of line.

The opening above mentioned appeared, from the strength and direction of the tide, to be that which must be pursued in any attempt to circumnavigate Keiyuk-tarruoke; but the unpromising state of the ice in this direction, and the precarious nature of the navigation, on account of the strong tides and the shelving character of the lands, did not offer any encouragement to make that attempt while a chance remained of effecting the more direct pas-

sage. To the latter therefore our hopes and expectations were now re-directed, if indeed it could be said that they had ever been placed elsewhere; and I determined to avoid, if possible, the entanglement of the Fury among the ice which now surrounded her on every side, and to stand back to Igloolik to hear what information Captain Lyon's journey might have procured for us. Before we could get into tolerably clear water, however, we had to run several miles to the southward, and then hoping to sail without farther incumbrance shaped a direct course for Igloolik. 1822. July.

The wind proved light and variable during the night, with continued fog; so that on the morning of the 31st, when we were wholly ignorant in what direction the tides had been taking us, we suddenly found ourselves surrounded by a great body of heavy ice, which seemed to have been brought about us almost by the effect of magic, for the ship had long ceased to move through the water, though, by the rapid change of soundings, quickly altering her position over the ground. In a few minutes there was barely room for turning the ship round, and we therefore made her fast to a heavy floe, a mile or two in circumference, when the fog, partially clearing away for a short time, discovered to us Tangle Island four or five miles to the westward, and the open sea one mile to the southward, or directly to windward of us. At half-past eight A.M. the ice slackening round the floe, we furled sails and began to warp towards the open water. While thus employed we continued to drift nearer and nearer to the island, and at the same time to drive between this and the next one to the eastward, decreasing the soundings regularly from twenty-five to thirteen fathoms in the course of the day. We continued our work till eight P.M. when, after eleven hours of incessant exertion and the most inclement weather, and just as we had got within a hundred yards of the clear water, a body of loose ice came drifting down with the tide and enclosed us more effectually than at first. The wind was now increasing to a gale from the south-east, and the ship beginning to drive faster between the islands; but having made every thing as snug as circumstances would permit, and prepared to unship the rudder in case of her taking the ground, we could do nothing but quietly await the result. The night, however, though a most inclement and anxious one, afforded our people all the rest they so much required; for by a providential concurrence of circumstances, we had been brought into our present dilemma on the only side of Tangle Island which is not shoal and dangerous, and the ice becoming Wed. 31.

1822. August. somewhat choked in an hour or two, we had no less than ten fathoms during the night, and altered our position very little.

Our situation, however, was still a very precarious one, as any movement of the ice to leeward must place us directly between the points of the islands, where the breadth did not exceed a mile, and from the nature of the land the passage was probably a shoal one. On the weather clearing up on the morning of the 1st of August we found that such a movement was just about to take place, the passage being already nearly cleared, and the ice around the ship beginning to give us notice of some alteration. Soon after a favourable slack took place, when, preferring the chance of sailing to that of driving through the unknown channel, which there was no time to sound, we cast off and, being guided by the leads and the colour of the water, ran safely through in five fathoms and a quarter, at the distance of one-third of a mile from Tangle Island, and immediately gained the open sea beyond. Just at this time we observed the Hecla standing towards us and re-joined her at a quarter before eleven, when Captain Lyon came on board to communicate the result of his late journey, of which he furnished me with the following account, accompanied by a sketch of the lands he had seen, as far as the extremely unfavourable state of the weather would permit.

Thur. 1.

July 25. "Accompanied by George Dunn, I found Toolemak on landing, who welcomed us to his tent in which for two hours it was scarcely possible to move in consequence of the crowd who came to gaze at us. A new deer-skin was spread for me, and Dunn having found a corner for himself, we all lay down to sleep, not however until our host, his wife, their little son, and a dog, had turned in beside me under cover of a fine warm skin, all naked except the lady, who with the decorum natural to her sex had kept on a part of her clothes. It rained incessantly during the night and the morning of the 26th was in consequence very unfavourable for our purposed expedition. At ten A.M. we started and found the sledge on a beach near the southern ice. Four men were to accompany us on this vehicle, and the good-natured fellows volunteered to carry our luggage. A second sledge was under the charge of three boys who had eight dogs, while our team consisted of eleven. The weather was so thick that at times we could not see a quarter of a mile before us but yet went rapidly forward to the WNW., when, after about six hours, we came to high bold land and a great num-

ber of islands of reddish granite, wild and barren in the extreme. We here found the ice in a very decayed state and in many places the holes and fissures were difficult if not dangerous to pass. At the expiration of eight hours our impediments in this respect had increased to such a degree as to stop our farther progress. Dunn, the old man and myself therefore walked over a small island, beyond which we saw a sheet of water which precluded any farther advance otherwise than by boats. At about three miles west of this were two bluffs separated by an apparent strait of half a mile in width, on the other side of which lay a flat field of ice over which was land in the distance. The old man gave the name of *Khemig* to the two bluffs. 1822. July.

"In the hope that the morning would prove more favourable for our seeing the land, the only advantage now to be derived from our visit since the fishing-place was not attainable, it was decided to pass the night on one of the rocky islands. The Esquimaux having brought no provision with them, I distributed our four days' allowance of meat in equal proportions to the whole party, who afterwards lay down to sleep on the rocks, having merely a piece of skin to keep the rain from their faces. In this comfortless state they remained very quietly for eight hours. Our little hunting-tent just held Dunn and myself, although not in a very convenient manner, but it answered the purpose of keeping us dry except from a stream of water that ran under us all night.

"The morning of the 27th was rather fine for a short time, and we saw above thirty islands, which I named Coxe's Group, varying in size from one hundred yards to a mile or more in length. Two deer were observed on the northern land which was called *Khead-laghioo* by the Esquimaux, and Toolemak accompanied Dunn in chase of them. One was killed by the latter as he informed me, in consequence of the old man's lying behind a stone and imitating the peculiar bellow of these animals, until it was led by its curiosity to come within a short gun-shot. On crossing to bring over our game we found the old Esquimaux had skinned and broken up the deer after his own manner, and my companions being without food I divided it into shares. The entrails and paunch I was about to leave on the plain, but was reminded by the anxious looks of the natives, that these offals are described by Crantz as delicacies, under the name of *Nĕrōōkă*, or "the eatable," an appellation which also distinguishes them at Igloolik. I accordingly assigned these choice morsels to a young man of our party who bore them off in triumph. 27.

1822. July.

"Arriving on the ice a skin was taken from the sledge as a seat, and we all squatted down to a repast which was quite new to me. In ten minutes the natives had picked the deer's bones so clean that even the hungry dogs disdained to gnaw them a second time. Dunn and myself made our breakfast on a choice slice cut from the spine, and found it so good, the wind-pipe in particular, that at dinner-time we preferred the same food to our share of the preserved meat which we had saved from the preceding night. Of the nerooka I also tasted a small portion on the principle that no man who wishes to conciliate or inquire into the manners of savages should refuse to fare as they do. I found this substance acid and rather pungent, resembling as near as I could judge a mixture of sorrel and radish leaves. I conceive that the acidity recommends it to these people.

"As we sat I observed the musquitoes to be very numerous, but they were lying in a half torpid state on the ice and incapable of molesting us. I obtained the meridian altitude which gave the lat. 69° 26′ 48″ N.; the western extreme of Igloolik bearing E.S.E. about fourteen miles. Soon after noon we set forward on our return and, without seeing any object but the flat and decaying ice, passed from land to land with our former celerity, dashing through large pools of water much oftener than was altogether agreeable to men who had not been dry for above thirty hours, or warm for a still longer period. Our eleven dogs were large fine-looking animals, and an old one of peculiar sagacity was placed at their head by having a longer trace, so as to lead them over the safest and driest places, for these animals have a great dread of water. The leader was instant in obeying the voice of the driver, who did not beat but repeatedly talked to and called it by name. It was beautiful to observe the sledges racing to the same object, the dogs and men in full cry, and the vehicles splashing through the water with the velocity of rival stage coaches.

"We were joyfully welcomed to the dwelling of Ooyarra whose guest I was now to become, and the place of honour, the deer-skin seat, was cleared for my reception. His two wives, *Kăi-mōo-khiăk* and *Awă-rūn-nĭ*, occupied one end, for it was a double tent; while at the opposite extremity the parents of the senior wife were established. The old mother *Nōw-kĭt-yŏo* assisted the young women in pulling off our wet clothes and boots, which latter being of native manufacture, she new soled and mended without any request on our side, considering us as a part of the family. Our knapsacks and clothes being wet, we gladly turned, in presence of a dozen or more of visitors, into

1829. July. [illegible] a skin was taken from the sledge as a seat, and we all [illegible] a repast which was quite new to me. In ten minutes the [illegible] picked the deer's bones so clean that even the hungry dogs dis[illegible] to gnaw them a second time. Dunn and myself made our breakfast on a choice slice cut from the spine, and found it so good, the wind pipe in particular, that [illegible] we preferred the same food to our share of the [illegible] saved from the preceding night. [illegible] the ne[illegible] principle that no man who wishes [illegible] should refuse to [illegible] as [illegible] pungent, resembling a near [illegible] I conceive that the [illegible] recommends it to [illegible] people.

"As we sat I observed the musquitoes to be very numerous, but [illegible] lying in a half torpid state on the ice and incapable of molesting us. I obtained the meridian altitude which gave the lat. 69° 26′ 48″ N., the western extreme of Igloolik bearing E. S. E. about fourteen miles. [illegible] noon we set forward on our return and, without [illegible] any object [illegible] flat and decaying ice passed from land to land with our former [illegible] [illegible] through large pools of [illegible] than was [illegible] [illegible] who had not been [illegible] thirty hours, [illegible] looking animal [illegible] by having a [illegible] for these [illegible] in obeying [illegible] who did not [illegible] talked to and called [illegible] name. It was beautiful to observe the sledges racing to the same [illegible] the dogs and men in full cry, and the vehicles splashing through [illegible] with the velocity of rival stage coaches.

[illegible] the dwelling of Ooyarra whose [illegible] deer skin seat, was [illegible] *Awa-rūn-ni*, occupied [illegible] opposite extremity the [illegible] the senior wife [illegible] The old mother *Nōw-ka-yee* [illegible] young women in putting [illegible] clothes and boots, which latter [illegible] native manufacture, [illegible] mended without any [illegible] side considering us as a part of the family. Our knapsacks and [illegible] lying [illegible] gladly turned, [illegible] of a dozen or more of [illegible]

our blanket-bags, which had been better preserved. Dunn slept in the little tent to watch our goods, and I had a small portion of Ooyarra's screened off for me by a seal's skin. Tired as I was, sleep was denied me; for I was obliged on the arrival of each new set of people to answer their questions as to how I possibly could have got into the bag, the manner in which I had wrapped it round me for warmth leading them to suppose I was sewed up in it. My host and his wives having retired to another tent and my visitors taking compassion on me, I went comfortably to sleep; but at midnight was awakened by a feeling of great warmth, and to my surprise found myself covered by a large deer-skin, under which lay my friend, his two wives, and their favourite puppy, all fast asleep and stark naked. Supposing this was all according to rule, I left them to repose in peace and resigned myself to sleep. 1822. July.

"On rising, Dunn and I washed with soap in a pond, which caused great speculations amongst the by-standers, on some of whom we afterwards performed miracles in the cleansing way. A large assemblage being collected to hear me talk of Neyuning-Eitua, or Winter Island, and to see us eat, the women volunteered to cook for us; and as we preferred a fire in the open air to their lamps, the good-natured creatures sat an hour in the rain to stew some venison which we had saved from our shares of the deer. The fires in summer when in the open air, are generally made of bones previously well rubbed with blubber, and the female who attends the cooking chews a large piece, from which, as she extracts the oil, she spurts it on the flame. At our meals I found every person much pleased with biscuit, which was supposed to be the dried flesh of the musk ox by those who had never seen that animal, and it was with great difficulty I explained that it was made from the seeds of a little tree and pounded to its present state. 28.

"After noon, as I lay half-asleep, a man came and, taking me by the hand, desired Dunn to follow. He led to a tent which from the stillness within I conjectured was untenanted. Several men stood near the door; and on entering I found eighteen women assembled and seated in regular order, with the seniors in front. In the centre near the tent-pole stood two men who, when I was seated on a large stone, walked slowly round and one began dancing in the usual manner to the favourite tune of 'Amna aya.' The second person, as I soon found, was the dancer's assistant, and when the principal had pretty well exhausted himself, he walked gravely up to him and, taking his head between his hands, performed a ceremony called

1822. July. *Kōo-nĭk*, which is rubbing noses, to the great amazement and amidst the plaudits of the whole company. After this, as if much refreshed, he resumed his performance, occasionally however taking a koonik to enliven himself and the spectators. The rub*bee*, if I may be excused the expression, was at length brought forward and put in the place of the first dancer, who rushed out of the tent to cool himself. In this manner five or six couples exhibited alternately, obtaining more or less applause according to the oddity of their grimaces. At length a witty fellow, in consequence of some whispering and tittering amongst the ladies, advanced and gave me the koonik, which challenge I was obliged to answer by standing up to dance, and my nose was in its turn most severely rubbed, to the great delight of all present.

"Having been as patient as could be wished for above an hour, and being quite overpowered by the heat of the crowded tent, I made a hasty retreat, after having distributed needles to all the females, and exacting kooniks from all the prettiest in return. A general outcry was now made for Dunn, a most quiet north countryman, to exhibit also; but he, having seen the liberties which had been taken with my nose, very prudently made his retreat, anticipating what would be his fate if he remained.

"During a short interval of fine weather we hung out our clothes to dry, and the contents of our knapsacks, instruments, knives, and beads, were strewed on the ground while we went inland to shoot a few ducks. We cautioned no one against thieving, and were so much at their mercy that every thing might have been taken without a possibility of detection, yet not a single article was found to have been removed from its place at our return. At night I was attended by the same bedfellows as before; the young puppy however, being now better acquainted, took up his quarters in my blanket-bag, as from thence he could the more easily reach a quantity of walrus-flesh which lay near my head, and I was awakened more than once by finding him gnawing a lump by my side.

29. "On the morning of the 29th I was really glad to find that the ships were not yet in sight, as I should be enabled to pass another day amongst the hospitable natives. While making my rounds I met several others who were also visiting, and who each invited me to call at his tent in its turn. Wherever I entered the master rose and resigned his seat next his wife or wives, and stood before me or squatted on a stone near the door. I was then told to 'speak!' or in fact to give a history of all I knew of the distant

tribe, which from constant repetition I could now manage pretty well. In one tent I found a man mending his paddle, which was ingeniously made of various little scraps of wood, ivory, and bone, lashed together. He put it into my hands to repair, taking it for granted that a kabloona would succeed much better than himself. An hour afterwards the poor fellow came and took me by the hand to his tent, where I found a large pot of walrus flesh evidently cooked for me. His wife licked a piece and offered it, but on his saying something to her took out another, and having pared off the outside gave me the clean part, which, had it been carrion, I would not have hurt these poor creatures by refusing. The men shewed me some curious puzzles with knots on their fingers, and I did what I could in return. The little girls were very expert in a singular but dirty amusement, which consisted in drawing a piece of sinew up their nostrils, and producing the end out of their mouths. The elder people were for the most part in chase of the tormentors which swarmed in their head and clothes; and I saw for the first time an ingenious contrivance for detaching them from the back, or such parts of the body as the hands could not reach. This was the rib of a seal, having a bunch of the whitest of a deer's hair attached to one end of it, and on this rubbing the places which require it the little animals stick to it: from their colour they are easily detected, and of course consigned to the mouths of the hunters. 1822. July.

"The weather clearing in the afternoon one ship was seen in the distance, which diffused a general joy amongst the people, who ran about screaming and dancing with delight. While lounging along the beach and waiting the arrival of the ship, I proposed a game at 'leap-frog,' which was quite new to the natives, and in learning which some terrible falls were made. Even the women with the children at their backs would not be outdone by the men, and they formed a grotesque party of opposition jumpers. Tired with a long exhibition I retreated to the tent, but was allowed a very short repose, as I was soon informed that the people from the farthest tents were come to see my performance, and on going out I found five men stationed at proper distances with their heads down for me to go over them, which I did amidst loud cries of *koyenna* (thanks).

"As the ship drew near in the evening I perceived her to be the Hecla, but not expecting a boat so late lay down to sleep. I soon found my mistake, for a large party came drumming on the side of the tent, and crying out that a "little ship" was coming, and in fact I found the boat nearly on

1822. July. shore. Ooyarra's senior wife now anxiously begged to tattoo a little figure on my arm, which she had no sooner done than the youngest insisted on making the same mark; and while all around were running about and screaming in the greatest confusion, these two poor creatures sat quietly down to embellish me. When the boat landed a general rush was made for the privilege of carrying our things down to it. Awarunni, who owned the little dog which slept with me, ran and threw him as a present into the boat; when after a general koonik we pushed off, fully sensible of the kind hospitality we had received. Toolemak and Ooyarra came on board in my boat, in order to pass the night and receive presents, and we left the beach under three hearty cheers.

"Having given so long an account of my adventures, it is high time to turn to objects of more importance to the Expedition. I had found the ice over which we passed flat, unbroken, but much decayed into holes. The general thickness was still from one to three feet, and amongst the islands much greater, owing to the packing incidental to the rise and fall of the tides. Astronomical or other observations for fixing the position of the land could not be obtained in consequence of the state of the weather, which, with the kind of fatality that had attended all my excursions, had been more than usually severe and foggy. I had seen enough to awaken curiosity but nothing to satisfy it; therefore it would be requisite for other visits to be made to a spot to which the Esquimaux attached some importance."

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, during the Month of *July*, 1822.

Day	Place.	Fahrenheit's Thermometer. Maximum.	Minimum.	Mean.	Mean Temp. of Sea Water.	Barometer. Maximum.	Minimum.	Mean.	Prevailing Winds. Direction.	Velocity.	Prevailing Weather
		°	°	°	°	inches.	inches.	inches.			
1	Winter Island.	+37	+30	+32.33	−31.00	29.09	29.06	29.077	NW	strong	cloudy and snow
2		36	31	33.50	30.00	29.	29.05	29.170	NWbW	fresh	cloudy
3	Eastern Coast of Melville Peninsula.	40	31	35.29	30.08	29.48	29.32	29.377	NW	modt.	fine
4		48	31	38.67	30.25	29.50	29.30	29.390	NE	light	hazy and snow
5		51	33	38.60	30.17	29.78	29.58	29.674	NW	modt.	cloudy,
6		52	33	41.75	30.50	29.82	29.75	29.787	N round by W to WbS	modt.	cloudy
7		54	33	41.42	30.70	29.74	29.70	29.715	NW	modt.	cloudy
8		47	33	38.80	30.95	29.80	29.69	29.752	NNE	light	cloudy
9		46	35	40.25	30.77	29.82	29.64	29.765	South	light	fine
10		40	33	39.17	31.05	29.70	29.52	29.607	NNE	light	cloudy
11		47	34	38.92	32.55	29.83	29.69	29.780	North	light	cloudy
12		45	33	39.75	33.40	29.96	29.89	29.918	South	light	cloudy
13		47	36	42.08	33.00	29.92	29.61	29.815	South	modt.	fine
14		39	34	35.92	33.83	29.63	29.60	29.605	NW	modt.	cloudy
15		42	32	35.58	34.67	29.64	29.54	29.607	South	modt.	fine
16		35	31	32.80	31.75	29.50	29.06	29.312	South	modt.	cloudy and snow
17	Off the Eastern Entrance of the Strait of the Fury and Hecla.	36	30	31.96	31.08	29.35	29.12	29.268	A.M. SbE P.M. NNW	light	hazy and snow
18		34	31	32.75	31.50	29.53	29.36	29.427	ESE	fresh	foggy
19		40	33	35.92	33.64	29.47	29.20	29.317	NNE	modt.	cloudy
20		44	33	35.83	33.58	29.12	29.09	29.103	NbW	modt.	cloudy
21		36	30	32.58	31.40	29.17	29.10	29.133	Round the Compass	modt.	cloudy
22		44	30	35.08	30.96	29.40	29.19	29.310	NWbW	light	cloudy
23		44	30	36.67	33.58	29.58	29.44	29.513	Westerly	light & varia.	cloudy and rain
24		44	30	36.08	31.00	29.78	29.52	29.667	SE	light	fine
25		44	32	37.58	33.33	29.87	29.80	29.845	NbW	light	cloudy
26		35	32	33.50	31.83	29.86	29.80	29.815	NE	light	hazy and rain
27		37	33	34.67	31.25	29.96	29.70	29.863	Easterly	light	hazy and rain
28		37½	33	35.37	31.62	29.62	29.40	29.473	North	modt.	hazy and rain
29		40	31	34.96	32.58	29.64	29.47	29.598	ESE	modt.	hazy and rain
30		39	31	35.71	32.75	29.60	29.46	29.515	Northerly	light	hazy and rain
31		33	31	32.92	31.79	29.42	29.38	29.400	SE	modt.	hazy and snow
		+54	+30	+36.34	−31.65	29.96	29.06	29.535			

CHAPTER XI.

REMARKABLE INSTANCE OF LOCAL ATTRACTION ON THE MAGNETIC NEEDLES—OCCASIONAL SEPARATION OF A PORTION OF THE FIXED ICE—A WHALE KILLED—OTHER CHARTS DRAWN BY THE ESQUIMAUX—ACCOUNT OF A JOURNEY TO THE NARROWS OF THE STRAIT—DISCOVERY OF THE SEA TO THE WESTWARD—TOTAL DISRUPTION OF THE ICE AT THE EASTERN ENTRANCE OF THE STRAIT—A SECOND INSTANCE OF LOCAL ATTRACTION ON THE COMPASSES—SAIL THROUGH THE NARROWS, AND AGAIN STOPPED BY FIXED ICE—ACCOUNT OF SEVERAL LAND JOURNEYS AND BOAT EXCURSIONS—OBSERVATIONS ON THE TIDES—CONTINUED OBSTACLES FROM FIXED ICE.

1822. August. Thur. 1. THE information obtained by Captain Lyon on his late journey with the Esquimaux, served very strongly to confirm all that had before been understood from those people, respecting the existence of the desired passage to the westward in this neighbourhood, though the impossibility of Captain Lyon's proceeding farther in that direction, combined with our imperfect knowledge of the language, still left us in some doubt as to the exact position of the strait in question. It was certain however that it lay somewhere in the direction to which we had already been so long and so anxiously looking, and that its eastern entrance was still occupied by many miles of fixed and therefore impenetrable ice; but the very impediment that had arrested Captain Lyon's progress, as well as our own daily observations on the state of the ice near its outer margin, appeared to offer a considerable hope that this obstacle must, in the common course of nature, very soon disappear, even by the gradual process of dissolution, if it were not more speedily removed by one grand and total disruption. While therefore Captain Lyon was acquainting me with his late proceedings, we shaped a course for Igloolik in order to continue our look-out upon the ice, and made the tents very accurately by the compass, after a run of five leagues, when the Hecla hauled

in-shore to pick up one of her men that had been left there to procure game, and the Fury stood towards the margin of the ice. 1822. August.

Just before we reached the edge of the floe the weather continuing extremely thick with hard rain, I desired Mr. Crozier to set the extremes of the loom hanging over Igloolik, which was then on our lee quarter. He accordingly did so, but presently afterwards remarked that the compasses, (both Walker's azimuth and Alexander's steering,) indicated the ship's head to be S.W., which was about the middle point on which, but a few minutes before, he had set the loom of the land two or three points abaft the beam. Knowing, by the true direction in which we were sailing, that the ship's course by the compass, if unaffected by any foreign local attraction, should have been about east, which in fact the needles had indicated previous to the change remarked by Mr. Crozier, I tried what tapping with the hand, the usual expedient in cases of mere sluggishness, would do, but without producing any effect. Being now obliged to tack for the ice, we carefully watched the compasses in standing off, and having sailed about a quarter of a mile observed them both gradually return to their correct position. Being thus satisfied that some extraordinary local attraction was influencing the needles, we again tacked to repeat the experiment, and with a nearly similar result. The observations were then continued on one or two successive tacks, the ship being steadily steered upon a given point by some object a-head; and an account of the whole is here subjoined in one connected view. The observations were made between six and nine P.M., the wind being moderate at east, (true,) the weather very rainy, the soundings fifty-two fathoms, and the nearest land distant from six to eight miles. The space sailed over during the time the changes were taking place did not exceed a quarter of a mile.

Starboard tack,	compasses first indicating the ship's head	East,	then changed to SW.
Larboard „	. . . . .	NWbN . .	SW¼W.
Starboard „	. . . . .	East . .	SSE.

Bore away to endeavour to cross our original track.

Larboard tack	Alexander's compass . .	NWbN . .	WbS.
	Walker's . . .	NW . .	WSW.
Starboard „	both compasses	East . .	SW½S.
Larboard „	Alexander's . . .	NW¾N . .	SWbW¾W.
	Walker's	NW .	SWbW¼W.

1822. August. Starboard tack, both compasses . . . NEbE¾E . . E¾E.

Alexander's a minute or two after returned to NEbE¾E, and Walker's to E¼N.

Alexander's compass was placed on the binnacle, the other stood about five feet higher, in its usual place.

In order to follow up the observations on this phenomenon on some other day, I sent a boat to fix a flag upon the ice, by way of marking the spot, but the margin was so broken up that it was impracticable to land upon it: a light buoy was therefore moored for the same purpose, though with little chance of retaining its station on account of the depth of the water. During the remainder of the night, when the wind and weather obliged us to keep more to the northward, the compasses were not thus influenced *.

Frid. 2. The weather clearing up on the morning of the 2d we found that a strip of ice about half a mile in width had been lately separated from the fixed ice, but ths to our impatience appeared like a drop of water in the ocean. Considerable "streams" and "patches" were also drifting along the margin during the day, and we were employed in beating through them in order to make fast to the floe, the weather being unfavourable for keeping under way. In the evening we secured the ships to the ice, being in twenty-three fathoms at the distance of two miles to the westward of Tern Island. For several hours in the course of this day, there was something in the atmosphere which distorted objects into very curious shapes. The principal feature in this phenomenon was a constant waving tremulous motion near the horizon, causing the whole body of ice to appear at times as if turning round, and making one almost giddy to look steadfastly at it. The distant land was sometimes flattened down so as to appear like a single thick black line upon the horizon; then again it would assume a shape of this kind,

while its real outline, when not thus distorted, was this,

* The spots near which this local attraction was found are designated on the chart by this mark ⊕.

The tremulous appearance is in a greater or less degree a very common phenomenon in the Polar Seas. Such indeed is the frequent occurrence of extraordinary and variable terrestrial refraction, and the consequent uncertainty with respect to the dip of the horizon, that observations made by the horizon of the sea, even when wholly free from ice, cannot be depended on within two or three minutes. There is however practically little or nothing to regret on this account, from the almost constant opportunities that occur in these seas of resorting to the more accurate method of observation by artificial horizons. 1822. August.

The wind backing by the N.E. to N.N.W. during the night, we had on the 3d a clear and pleasant day which, as the ice remained in the same state as before, induced us to pay another visit to Tern Island. We here found the scurvy-grass so much improved in luxuriance that a number of men from each ship were employed all day in picking it for the purpose of boiling with our pea-soup. Every body seemed to agree that the taste of this plant somewhat resembled turnip-tops, but it possesses it in a very small degree, and whatever may be its anti-scorbutic qualities has little or nothing to recommend it to the palate. The leaves were in general numerous, but not exceeding two-eighths of an inch in diameter, and in many tufts there was nothing but the flower and stalks; but these as well as the root were all committed to our coppers, being the only general supply of the kind obtained during this voyage. The tern had now almost entirely deserted the island, and we saw no other birds except a flock or two of phalaropes and a few silvery gulls. Sat. 3.

In the evening the wind having settled to the southward and eastward, which was directly upon the ice, I ordered the ships to be got under way, for the purpose of keeping them always at liberty for any change that might occur. The Fury being in an awkward lee bight, we had to send a kedge out for casting; but being after all obliged to make sail on an unfavourable tack were again carried into the ice, which was now in so thin and "rotten" a state, that the ship forced her way several hundred yards into it before she stopped, and then lay during the night thus immoveably though quite safely beset. The Hecla having cleared the floe, I made Captain Lyon's signal to act as appeared best to him; and he accordingly kept under sail as at first intended.

The present state of the ice, at which I have just hinted, served no less to excite our surprise than to keep alive our hopes and expectations. The spaces occupied respectively by ice and holes were about equal; and so

1822. August. extensive and dangerous were the latter, that the men could with extreme difficulty walk twenty or thirty yards from the ship to place the anchors, and that at no small risk of falling through. The shape of the ponds and holes being serpentine and various, and their blue colour forming a striking contrast with the whiteness of the snow that lay on the ice, gave the floe when viewed from the mast-head an appearance not unlike that of the fancy-patterns one sometimes sees on cloths or paper-hangings. We were astonished therefore to find with what tenacity a field of ice, whose parts appeared thus loosely joined, still continued to hang together, notwithstanding the action of the swell that almost constantly set upon its margin.

Sun. 4. The weather, which had for several hours been rainy and thick, cleared up about noon on the 4th, in consequence of the wind shifting to the N.W., when we made sail from the floe in order to look for our buoy, and to continue our observations on the magnetic attraction in that neighbourhood. After making several tacks as near the place as the bearings of the land and the soundings could direct us, but without discovering the buoy, we were obliged for the present to give up the attempt; having, to our great satisfaction, observed a floe at least three miles in length and two in breadth just detached from the fixed ice, and rendering it necessary for us to work out of its way, lest it should force us towards the shore. We only, therefore, waited to put down some nets to ascertain the nature of the bottom, and then hauled round the floe. A quantity of shells, among which were a few of the new species of *anomia* discovered on the last voyage, with some shrimps and *echini*, were all that we could thus fish up. Having cleared the end of the floe, which drifted rapidly away and, as usual here, never made its appearance afterwards, we made the ships fast to the fixed ice at eight P.M., having by the late disruption made considerable progress in the direction of the strait.

Mon. 5. At nine A.M., on the 5th, the temperature of some sea-water brought up from near the bottom in fifty-seven fathoms, was 32½°, that of the air being 34°, and of the surface 30½°. The specific gravity of the former was found by Mr. Fisher to be 1.0286, at the temperature of 40°*. What made the temperature and specific gravity of the sea-water here a particular object of curiosity was the fact before conjectured, but now satisfactorily confirmed,

* The specific gravity of the surface-water in this neighbourhood will be found, for a few days about this time, in the Meteorological Abstract.

that the stream or current sometimes set out from under the ice, and in a south-easterly direction, though at a rate considerably varying for a day or two together. The station now occupied by the ships, and the present clearness of the weather, enabled us to obtain a tolerably distinct view of the lands to the westward; but the constant fogs and rain experienced by Captain Lyon on his late excursion rendered it impossible for him, at this distance, to recognise the place he had visited; and the observation he had obtained, giving the latitude much to the southward of the only apparent opening now before us, threw a shade of mystery over the unknown passage, which redoubled our impatience to examine it. 18 August.

We had for several days past occasionally seen black whales about the ships, and our boats were kept in constant readiness to strike one, for the sake of the oil, in which endeavour they at length succeeded this morning. The usual signal being exhibited, all the boats were sent to their assistance, and in less than an hour and a half had killed and secured the fish, which proved a moderate-sized one of above "nine feet bone," exactly suiting our purpose. The operation of "flinching" this animal, which was thirty-nine feet and a half in length, occupied most of the afternoon, each ship taking half the blubber and hauling it on the ice, to "make off," or put into casks. We also made fires on the ice, in order to boil a portion of the blubber into oil, for the convenience of stowage; but this method being found a wasteful one until it is left several days to drain, we boiled only a hundred and twenty gallons each, and then put the rest into tanks and casks, being a supply sufficient for at least two years.

The latitude of our present station was 69° 32′ 10″; the longitude, by chronometers, 81° 23′ 06″; the dip of the magnetic needle 88° 06′ 26″; and the variation 86°05′43″ westerly; the latter phenomenon having considerably increased since our last observations. In the course of the night Mr. Ross was again fortunate in procuring one or two specimens of the *Larus Sabini*, out of a flock of forty that flew past the ship from the westward. Mr. Ross remarked that they had no other birds in company, and flew high as if migrating, but afterwards alighted in the open water at some distance from the edge of the ice. The operation of "flinching" a whale, which in Davis's Strait and the Greenland Seas collects a large assemblage of birds about the ship, had not the same effect here, five or six of the *Larus Argentatus* being all that were thus attracted. Fulmar petrels, the usual visitants on such occasions, are never seen here, which seemed to us the more remarkable

1822. August. as they had generally been our companions in most other parts of the polar regions that we had visited. We had to-day, for the first time this summer, seen a number of white whales (*delphinus albicans*) near the ice; but found them as usual so extremely wary as to elude every endeavour to strike them, though the boats frequently made the attempt, this being the only large sea-animal inhabiting these regions which we had never yet taken.

Tues. 6. On the forenoon of the 6th a halo was observed round the sun, and on the eastern side of it a slightly-coloured parhelion, distant from the sun

Wed. 7. 24°.17. Some water, brought up on the 7th, from sixty fathoms or near the bottom, was at the temperature of 31°.6, that of the surface being 31°.3, and of the air 35°. As soon as we had completed the stowage of the blubber, and washed the ships and people's clothes, we cast off, taking in tow the carcass of the whale (technically called the "crang") for our friends at Igloolik, and with the intention also of looking for the buoy that had been laid down in that neighbourhood. In the latter attempt we again failed, the buoy having probably been swept away by the drift-ice; nor could we afterwards hit upon the exact spot where the attraction on the needles had been observed. The wind dying away when the ships were off the north-east end of the island, the boats were despatched to tow the whale on shore, while Captain Lyon and myself went a-head to meet some of the canoes that were paddling towards us. We soon joined eleven of them, and on our informing the Esquimaux of the prize the boats were bringing them, they paddled off with great delight. When they arrived at the spot and had civilly asked permission to eat some of it, they dropped their canoes astern to the whale's tail, from which they cut off enormous lumps of flesh and ravenously devoured it; after which they followed our boats in-shore, where the carcass was made fast to a mass of grounded ice for their future disposal. In the mean time Captain Lyon and myself had rowed up to the station formerly occupied by the tents, which however we now found wholly deserted by the natives, who had left only a sledge or two, and a quantity of blubber here and there under the stones before used for the tents.

Thur. 8. A fresh breeze having sprung up from the southward, we stood off and on for the night, and on the 8th again made the ice, in which no change was perceptible. We hoped however that some service would be done us by the swell, though its effects would only be rendered apparent when the wind veered to the westward. This taking place on the following

day, we had the satisfaction of seeing another large "patch" from one to two miles in width separated from the fixed ice, and soon drifted out of sight to the south-east. As we made several tacks off the island next to the northward of Igloolik, called by the Esquimaux *Neerlo-Nakto*, two canoes came off to us, in one of which was Toolemak. He and his companions came on board the Fury, when I employed him for a couple of hours in drawing a chart of the strait. Toolemak, though a sensible and intelligent man, we soon found to be no draftsman, so that his performance in this way, if taken alone, was not a very intelligible delineation of the coast. By dint however of a great deal of talking on his part, and some exercise of patience on ours, we at length obtained a copious verbal illustration of his sketch, which confirmed all our former accounts respecting the existence of a passage to the westward in this immediate neighbourhood, and the large extent of the land called Keiyuk-tarruoke on the northern side of the strait. The word *Khēmig* he applied either to the strait or to some place about its shores, as he had before done to Captain Lyon; but the weather was at this time unfortunately too thick to allow of his pointing out the exact direction in which this interesting spot lay. This piece of information was, just at the moment, desirable only as a matter of extreme curiosity and almost painful interest, as it was certain that the passage was at present inaccessible to ships on account of the ice. Toolemak also agreed with our other Esquimaux informants in stating, that from the coast of Akkoolee no land is visible to the westward; nor was any ever heard of in that direction by the Esquimaux. This fact they uniformly assert with a whine of sorrow, meaning thereby to intimate that their knowledge and resources are there both at an end. Toolemak represented the coast of Keiyuk-tarruoke as abounding with whales and narwhals, and repeatedly mentioned that icebergs were seen on its northern side, as before described by Okotook. The only actual addition to our former information was respecting some Esquimaux inhabiting an island of considerable size, at a great distance to the eastward or north-east. These people they call by the name of *Seăd-lēr-mĕ-ŏo*, a general term by which they distinguish all Esquimaux not belonging to their own tribe, and of whom, with their accustomed self-conceit, they invariably speak with undisguised contempt. It is remarkable that even the natives of Southampton Island, notwithstanding their proximity to the continental coast, come under this denomination; there being no intercourse whatever, as far as we could learn, between the two tribes.

1822. August. Frid. 9.

1822. August. The ships being close to the edge of the floe in the evening, I directed them to be made fast; but the boat that went to make holes for the ice-anchors, returning with the information that the ice was in too "rotten" a state to hold them, we ran the ships into the floe under all sail, where they easily made a dock for themselves, and remained quietly for the night, which proved extremely fine and clear. A number of shrimps, *echini*, and other marine insects were brought up in a net from the bottom.

Sat. 10. Some water brought up on the 10th from a depth of forty fathoms was at the temperature of 32°, that of the surface being the same, and of the atmosphere 40°. In the evening we made sail and ran along the margin of the ice, and soon after had the satisfaction of observing that another large floe was just on the point of being detached. On arriving at its northern end, we found that it still wanted a little to complete the separation, and with a view of applying the requisite force, or at least all that we had at our disposal, the ships were made fast to it by several hawsers, and all their sails set aback, the wind blowing fresh from the westward. This expedient soon produced the desired effect; the floe beginning to disjoin in less than ten minutes, and the whole of it then drifting away at the rate of a mile and a half an hour, so that at midnight we were enabled to cast off and make sail to windward of it.

This last disruption, while it gave us another short step to the westward, allowed us also to approach Neerlo-Nakto as near as the soundings, which are here quite shoal, would permit; and at noon on the 11th we made the ships fast to the ice in eight fathoms, on a bottom of small lime-stones, and went on shore to examine the productions of the island, and obtain a more extensive view of the neighbouring lands. We found it to resemble Igloolik in its general character, but discovering an approach to the primitive formation not perceptible at the latter island, numerous large masses of granite, gneiss, and quartz appearing on the surface intermixed with the fragments of lime of which it is principally composed. The island is extremely low, and its surface is covered with numberless small and one very large pond of fresh water, the resort of black and red-throated divers and of the long-tailed ducks. A large flock of brent-geese were seen, and two or three procured from some of the Esquimaux whom we found on the island, and who had caught them with the snares of whalebone before described. Large flocks of eider and king-ducks were also flying about; but the natives being in the habit of visiting the island for the sake of the birds and their eggs, had

made them so wild that we procured but few. Captain Lyon's party were fortunate in killing two deer, giving each ship one hundred and fifty pounds of fine venison exclusive of the heads and hearts, which as a matter of good policy were considered the lawful perquisites of the sportsmen. Including these and the entrails, the weight of each deer was estimated at two hundred and twenty pounds, which may be considered a favourable specimen of the rein-deer here at their best season. One of these animals took the water in a large pond, and was not obtained without much wading. 1822. August.

The Esquimaux we met on the island at first landing were four young men, of which two were brothers of our little friend "John Bull," and had just arrived from Amitioke. From them we learned that Ewerat and his party had reached the place of their destination, and would probably come on to Igloolik in the course of the summer. One of the young men who insisted on attending me about the island the whole afternoon, made himself useful in giving the Esquimaux names of the different lands in sight. On being desired to inform us where *Khemig* lay, he pointed in the exact direction in which we had from the ships always supposed the strait to be; that is, about N.W.b.W. from Neerlo-nakto, upon which bearing was a high rocky hill of a remarkable form, and the most conspicuous object in sight in coming off the strait from the eastward. It is essential here to remark, that about this period two or three charts had been drawn on board the Hecla by different natives, of whom Toolemak was one, and they all pointed, in the direction I have just mentioned to *Khemig*, which was now understood to be an island lying in the strait, as in fact it afterwards proved. This information so repeatedly and explicitly obtained, while it satisfied me more and more of our being in the right track, could not fail also to add to my perplexity respecting the place visited by Captain Lyon,—a place evidently bearing a similar name and frequented by the Esquimaux on their way to Akkoolee, but lying by observation at least fifteen miles to the southward of the strait now before us. The clearing up of all obscurity on this point was desirable at the present moment, more as an object of curiosity or geographical research, than as affecting the movements of the Expedition; for these too evidently depended on necessity not choice; it being impossible, supposing even the existence of half a dozen different channels, to navigate any but that in which nature should open her barriers. That this operation was going on more rapidly here than in the passage to the southward of Igloolik, and that from their comparative size and openness, as well as from the current

1822. August. observed to set from the westward at our present station, the probability was much in favour of this channel being the first cleared, was too plain to admit doubt; and I therefore entertained none as to the point towards which all our efforts should be directed. If after all there *should* be two channels in this neighbourhood, both leading into the Polar Sea, one perhaps to the north and the other to the south of an island, (which in the present state of our knowledge seemed the only reasonable conclusion,) the propriety of pushing through that which was first opened still remained the same; for the quitting of the continental shore for a few miles could not, in such a navigation as this, be put in competition with the value of a day or even an hour of our remaining navigable season.

Convinced, however, as I was of the expediency of pursuing this line of conduct, which in truth seemed the only practicable one, yet every hour's delay added an indescribable weight to my anxiety. For the same train of reasoning, by which we flatter ourselves into a belief of having done our best to avoid an evil, does not always furnish a proportionate degree of patience to enable us quietly to endure it; and, stopped as we had now been, at the very threshold of the North-West Passage, for nearly four weeks, without advancing twice as many miles to the westward, suspense at such a crisis was scarcely the less painful because we knew it to be inevitable. The decayed state of the ice, which even a fortnight before, had rendered travelling extremely dangerous, could alone, therefore, under these vexatious circumstances, have prevented my despatching another party, for the express purpose of deciding the question respecting the Strait: for, highly as we had a right to value the repeated and concurrent testimony of so many intelligent Esquimaux, it was impossible to feel satisfied on such a subject, while our own ocular evidence was still wanting. Observing, however, to-day, from an eminence on which we took the angles for the survey, that the ice within the line of the island appeared much less decayed than that in the stream of the Strait, I determined on attempting, by this means, a journey to the westward, endeavouring first to reach some Islands in that direction; and then, by passing from one to the other, at length to gain the main-land, upon which it might not perhaps be difficult to travel to the Strait itself, and thus to end every doubt, as well as every conjecture, respecting it.

While we were on shore, which was from a quarter past one till twenty minutes past six, P.M., the tide ebbed three feet and a half, and appeared to be still falling. The beach is extremely flat and shelving, so that the boats

touched the ground at the distance of half a mile from the shore, the bottom being composed of stones of all sizes. 1822. August.

A breeze had sprung up from the south-east while we were on shore; but the weather being fine we kept the ships fast, it being my intention to prepare immediately for my proposed journey over the ice, for which our present station was particularly convenient. At four A.M. on the 12th, however, it freshened so much as to cause the ships to strike very heavily on the ice, which was here of the "hummocky" kind. The swell having soon after broken up the edge, a press of head-sail enabled us to force the ships a short distance within the margin, and a few other loose masses drifting down from the eastward, we were at length secure from any disturbance. The rudders were however unshipped, in case of accidents, and in the afternoon the wind moderated, though the weather continued extremely inclement, with snow, which was afterwards succeeded by rain. On the 13th, the weather remained too thick and unsettled for leaving the ships, though the wind was quite moderate, and in the evening shifted to the westward. The loose ice was drifting away from the floe, against the wind, during the whole of the day, affording another certain proof of a set to the south-east, independently of tide. Several black whales came up close to the ships, and three Sabine gulls, some ducks, dovekies, and silvery gulls, were also seen. Mon. 12. Tues. 13.

Early on the morning of the 14th, the breeze having freshened from the north-west, another floe broke away from the fixed ice, allowing us to gain about half a mile more to the westward; such was the vexatious slowness with which we were permitted to advance towards the object of our most anxious wishes! As, however, this disruption brought us so much nearer the islands towards which I was about to travel, we cast off and beat up into the bight left by the floe. Wed. 14.

My party consisted of Mr. Richards, and two men from each ship, and we were furnished with ten days' provision. Mr. Crozier, with three additional men, was appointed to assist in carrying our baggage to the first islands, and then to return on board. Having given Captain Lyon the necessary instructions for proceeding during my absence, and appointed the narrow part of the Strait as a rendezvous in case of any sudden disruption of the ice allowing him to follow us, I left the ships at half-past one P.M., but had scarcely proceeded two hundred yards, when we found that a plank would form an indispensable part of our equipment, for the purpose of crossing the

1822. August. numerous pools and holes in the ice. Two planks of fir nailed together being speedily furnished from the ships, at two P.M. we finally took our departure.

Having soon gained the more solid floe before observed from the island, we found its edge distinctly defined by a strait line of "hummocky" ice, where it was joined to the thinner floe occupying the stream of the Strait; giving us the impression of its having been much longer formed than the other in consequence of being out of the tide-way, and affording, by its comparative solidity, very superior travelling. Being thus favoured, we made quick progress to the westward for seven or eight miles, when the holes and cracks began to increase in frequency and depth, and we were three hours in accomplishing the last mile and a half; the warmth reflected from the land, and the action of the tides in raising and depressing the ice, having here cracked and partially detached it in many places. We landed at a quarter past nine P.M., after seven hours' walking, the direct distance from the ships not exceeding ten or eleven miles, and found it low water by the shore about ten o'clock.

The difficulty experienced in landing made me apprehensive lest Mr. Crozier and his party should not be able to get from the island without the assistance of our bridge. I despatched him, however, at four A.M. on the
Thur. 15. 15th, and had the satisfaction to find that being now unencumbered with loads, he and his men were able, by a circuitous route observed from the hills, to leap from one mass of ice to another and thus to gain the more solid floe. Having seen him thus far safely on his way, we crossed the island one-third of a mile to the westward, carrying the plank with slings from our shoulders, to prevent injuring it on the rocks. After passing over broken and detached ice for a mile and a quarter to the next island, which is a small one, we found it separated by a narrow channel of a hundred yards in width from a third and larger. After dining and resting an hour or two about noon, near the middle of this island, we arrived on its western shore at six in the evening, when the weather becoming misty we pitched the tent for the night. Between this and the next island was a large space entirely clear of ice, and here we observed a black whale sporting about: we also met with two large deer and a fawn, but could not get near them. A long-tailed duck with three very young ones, and a pair or two of red-throated divers, were swimming about in the ponds. The former served us as a supper, the *andromeda tetragona* and ground-willow furnishing fuel for

cooking them. A pair of ravens, one or two silvery gulls, and a few snow-buntings, were all we saw besides. 1822. August.

Heavy snow continued to fall during the night, rendering the atmosphere too thick to allow us to see our way till half-past nine A.M. on the 16th, when we struck the tent, and set out upon the ice, which we now found better for travelling than before, consisting of a level floe, intersected only by numberless pools not more than knee-deep, and with their bottom generally strong enough to allow us to wade through them. Proceeding along the southern side of the land on which the remarkable hill before-mentioned is situated, and which I now named Mount Sabine, out of respect to Mr. Joseph Sabine, we halted at noon a mile and a half due south of it, and observed the lat. 69° 37′ 40″; and then continuing our journey landed at two P.M. to dine and rest. Serjeant Wise here shot a hare of a remarkably dark colour on the upper part of the body, and particularly about the ears, but quite white underneath. Two or three ring-plovers were also seen. Frid. 16.

We moved again at half-past four; and at a mile and a half in a W.b.N.½N. direction, arrived at the extreme point of the island, and crossed the ice about a hundred yards to the next. Traversing this also, we then walked a mile and a half with the assistance of the plank, which it frequently required extreme caution not to break, over loose and even drifting ice to the next, on which we halted for the night at eight P.M., after a day's journey of no great length, but attended with much wet and fatigue. The snow, which fell at intervals during the day, was succeeded in the evening by rain and fog, which continued very thick till six A.M. on the 17th, when we resumed our journey across the island; and after deeper wading than usual in reaching the ice, at length set forward upon it, and at nine o'clock landed on a small island in a S.W.b.W. direction. The sun now making its appearance, and the whole of our clothes and baggage being wet, I determined to remain here a few hours to dry them, which we were soon enabled to do, the wind shifting to the N.W., and quickly dissipating the fog and clouds. The warmth of the sun seemed not more agreeable and invigorating to us than to the other inhabitants of the island. These consisted only of numerous large mosquitoes, which, though in a torpid state before, now commenced their attacks, and continued to annoy us during the rest of our stay. Their sting however certainly produced in this climate much less inflammation than is usual in a warmer one, though I do not know Sat. 17.

1822. August. how much of this difference is to be attributed to the man, and how much to the mosquito.

The islands over which we had lately passed, and which, at the request of Mr. Richards, I named the Bouverie Islands, rise from two to six hundred feet above the sea, with deep water quite close to their shores. They consist principally of dark-coloured gneiss-rock, the strata of which, in all the instances where I had an opportunity of examining them, dipped to the northward or north-west. There are also on some of the islands considerable tracts where the rocks exhibited a schistose structure, the loose slaty fragments, which I took to be mica-slate, varying from near a perpendicular to an almost horizontal direction, and indifferently as to the direction of their dip. On one island only, being that on which the three deer were seen, the outer ends of these slaty fragments were covered with a thin superficial coating of a verdigris-green substance, extending a foot or two along the surface in different places, and giving the rock the singular appearance of having been painted that colour. None of the fragments were thus tinged in any part but their outer ends, nor could I find any other substance in the same neighbourhood exhibiting a similar appearance.

After obtaining the meridian altitude, which gave the lat. 69° 37′ 55″, we left the island, and directed our course across the ice to the N.W., towards a low part of the land. On reaching this spot, which proved to be an isthmus scarcely fifty yards in breadth, and ascending the first eminence, we had every reason to be satisfied with our route, being now enabled to perceive that we had in all probability reached the main-land; the ice lately crossed being that of a spacious bay to the south, which I named after my fellow-traveller Mr. Richards, and the sea to the northward, between us and the high land of Keiyuk-tarruoke, bearing evident marks of our approach to the supposed strait. The ice was here entirely broken up and in motion to the eastward, and in many places about the northern shore there was abundance of open water. Being satisfied that we could now perform the remainder of our journey by land, I determined to leave the plank and a portion of our provisions at this spot, and to make a forced march for the Strait as lightly equipped as possible. We here for the first time found the rocks to be composed of red granite, a circumstance we hailed with satisfaction at the time, as Captain Lyon had met with a similar formation at the extent of his journey to the westward. It was high water by the shore at about seven in the evening.

At two o'clock on the morning of the 18th, the weather being extremely fine and clear, we rose with the sun; and after depositing our spare stores within a heap of stones, left the isthmus, and directed our course over the hills to the westward, which consist partly of greyish gneiss and partly of red granite, some of them rising at least a thousand or twelve hundred feet above the level of the sea. These being in some places extremely steep, with numberless loose fragments lying about, which only required the foot to be set upon them to give them motion down the precipice, we were for some time obliged to proceed with much caution. At half-past five, however, we had arrived at a peninsula which promised to prove of high interest, for it appeared to lead to the very spot where, from the set of the tide and the trending of the coast, the strait was most likely to be found; and it presented at the same time a geological character differing from any we had before met with. The appearance of the southern or inner part of this peninsula is singular, being that of three or more nearly horizontal and equidistant ranges or strata, resembling at a distance so many tiers or galleries of a high and commanding fortification, which seemed to defy approach. On reaching this place, where two long and deep ponds of fresh water serve to contract still more the narrow isthmus by which it is divided from the other land; we found the rocks composed of a brownish-red sandstone in numerous alternate strata of darker and lighter shades, though three or four only of these were conspicuous at a distance. 1822. August. Sun. 18.

We now turned nearly due north, the character of the rocks continuing much the same, except that some narrow veins of a compact white sandstone appeared here and there traversing the other. Some of this, as well as of the red kind, occurred now and then in a pulverized state; the former on first taking it up, exactly resembled white sugar when moistened by water, but being subsequently dried proved remarkably minute and fine. After crossing a deep hollow, nearly intersecting the peninsula from east to west, we observed the rocks to consist of a beautiful variety of the reddish sandstone, variegated with serpentine and nearly concentric delineations of a darker red, and having numerous oval *knots* of various sizes, like those of wood, giving the smoothly rounded surface of the bare rock in many places more the appearance of handsomely polished beef-wood than of stone. After passing over a mile and a half of this, we arrived at about seven A.M. at the ultimate object of our journey, the extreme northern point of the peninsula overlooking the narrowest part of the desired strait

1822. August. which lay immediately below us in about an east and west direction, being two miles in width, apparently very deep, and with a tide or current of at least two knots setting the loose ice through to the eastward. Beyond us to the west, the shores again separated to the distance of several leagues; and for more than three points of the compass in that direction no land could be seen to the utmost limits of a clear horizon, except one island six or seven miles distant. Over this we could not entertain a doubt of having discovered the Polar Sea; and loaded as it was with ice, we already felt as if we were on the point of forcing our way through it along the northern shores of America.

After despatching one of our party to the foot of the point for some of the sea-water, which was found extremely salt to the taste, we hailed the interesting event of the morning by three hearty cheers and by a small extra allowance of grog to our people, to drink a safe and speedy passage through the channel just discovered, which I ventured to name by anticipation, THE STRAIT OF THE FURY AND HECLA. Having built a pile of stones upon the promontory which, from its situation with respect to the Continent of America, I called CAPE NORTH-EAST, we walked back to our tent and baggage, these having, for the sake of greater expedition, been left two miles behind; and after resting a few hours set out at three P.M. on our return. To save ourselves the fatigue of re-ascending the craggy and precipitous mountain land passed over in the morning, we struck through some ravines and valleys more to the southward, which however led us so far out of our way, without much improving the road, that we did not reach our depôt till a quarter past seven in the evening, after a circuitous journey of fourteen or fifteen miles. This walk however subsequently proved of service in pointing out the route by which another object might be attained.

The whole of the tract over which we passed this day was inconceivably barren and desolate, with scarcely a tuft of moss or grass, or even a snow bunting's note to give occasional animation to the scene. I cannot help adding however, that where, in some moist and sheltered situation, a little patch of green *did* occur, the sorrel, (*rumex digynus*,) was sure to have put forth its leaves. Nor is this the only instance in which we have remarked that this hardy and valuable antiscorbutic plant seems, as it were, to glory in springing up and flourishing in situations where scarcely any other can find soil or moisture for its sustenance. A number of small lakes occur in every part of this country, as well as on all the islands that we visited.

Those on the main land were mostly remarkable, as having still a patch of level solid ice, about ten inches thick, occupying the whole extent of them, except for a space of fifteen or twenty feet all round the shores, where the ice had been dissolved by the warmth of the land. To us the fact was new at this season, and is still somewhat unaccountable. Whether so strange a circumstance is to be attributed to locality or to an unfavourable season, the experience of a single year or two is not sufficient to determine. Three long-tailed ducks were killed out of a flock swimming in a lake; these birds being in moult could not rise from the water, but their quickness in diving makes it extremely difficult to shoot them. A hare of a very dark colour was seen near the tent, though one of these animals perfectly white had been noticed on the same spot only the day before. It was high water by the shore in Richards's Bay at a quarter before eight this evening. 1822. August.

At thirty minutes past five A.M. on the 19th, the ice was observed to be setting fast to the eastward in the Strait, as indeed it had always been whenever we had obtained a distinct view of it, which circumstance tended very strongly to confirm the impression we had before received of a permanent easterly current. Having employed a couple of hours in re-packing our baggage for travelling, we set out on the ice at six o'clock and reached the small island at nine; where we were saluted as before by swarms of troublesome mosquitoes. The tide having fallen a little by the marks on the rocks we judged it to have been high water at about half-past eight. Proceeding again at half an hour past noon, and being now aware that our easiest travelling was on the level ice, through the pools on which we had learned to pass with less delay than at first, we were enabled to reach Deer Island at a single journey, by taking care to avoid all the broken ice near the land. This latter precaution was indeed so necessary, that, when at length we wished to go on shore, it took us above an hour to effect the last two hundred yards, and that with more wet, cold, and fatigue than we had experienced in walking the whole preceding journey. We landed however at five P.M., and obtaining from the hills a distant view of the ships, observed that they were employed in warping among the ice. There was now a great deal of open water in the Strait, and the easternmost of the Bouverie Islands were entirely cleared of the ice on which we had travelled upon our outward journey. We here found some more of the verdigris-green substance, though on the opposite side of the same island as before, occurring precisely under similar circumstances. A little animal ran up the rocks near our tent, which Mon. 19.

1822. August. at the time we took to be an ermine; but which on subsequent recollection of its colour, furry coat, and brushy tail, I believe to have been a squirrel of some kind, though we have not on any other occasion met with this animal.

Tues. 20. It rained hard on the morning of the 20th till seven A.M., when we re-ascended the hill to determine our best route to the ships according to the position of the ice, and also with the intention of lighting a large smoky fire to give intimation of our return, which signal I had agreed on with Captain Lyon. In the latter attempt we failed, the *andromeda* being too wet even to produce smoke enough for our purpose. We therefore set out upon the ice at half-past nine with the intention of making a hard push to get on board without halting. With this view we kept well into the bay, in order to avoid the detached ice near the islands, but were once obliged to go on shore on account of a broad crack that had lately been made in the floe. We could at this time scarcely discover the ships from the ice; but having the island of Neerlo-natko as a guide, we continued to push on, hoping to reach them in two or three hours. At thirty minutes after three P.M. however, being surprised to find them still six or seven miles distant, we halted to dine, and to let one of our party, who was seized with a shivering in consequence of twice falling into the water, shift his clothes; after which we again set forward. At half-past five we came to a quantity of "hummocky" ice that lay off the island, and finding here a broad lane of water obstructing our progress, the idea first occurred to us that the ships must be adrift, the whole of the ice outside of us having been lately broken up and detached from the floe on which we stood. By means of ferrying upon one piece as a boat to the other, we at length got across the lane of water and found the ice in separate masses, but more closely packed on the other side. The plank being now no longer serviceable, while it occasioned us much detention in carrying, we fixed it in an upright position on a large floe-piece, and in a few minutes after a gun from the Hecla, accompanied by the appointed signal that a boat was coming, assured us of our being discovered by the ships. At nine P.M. when some of our party were nearly exhausted with incessant jumping and wading, Lieutenant Hoppner met us in one of the boats, and we arrived on board at ten o'clock, after twelve hours' laborious journey.

On almost all the shores both of the main-land and islands that we visited, some traces of the Esquimaux were found; but they were less numerous than in any other places on which we had hitherto landed. This circum-

stance rather seemed to intimate, as we afterwards found to be the case, that the shores of the Strait and its immediate neighbourhood are not a frequent resort of the natives during the summer months. 1822. August.

I learned from Captain Lyon that Mr. Crozier and his party had scarcely got on board the ships when the weather became extremely thick and continued so all night, so that his return was very opportune, and the more so, as on the following morning the whole body of western ice, including that to which the ships were attached, was observed to have broken up. Fortunately however the latter, by pressing against the island of Neerlo-Nakto, enabled the ships for some time to retain their station and assisted in keeping them off the shore; but they were afterwards drifted about in the shoal water near the island, and continued in a very unpleasant and hazardous situation till the time of my return. Being immoveably beset by the other ice that had been detached, on the night of the 17th the Fury sustained one or two heavy "nips" by the pressure, which lifted her abaft, but without any injury whatever. Great quantities of ice were observed to drift past from the westward, from which direction, whenever the wind was light, there appeared to be a constant current.

If Mr. Crozier's return was opportune, mine was certainly no less so, for at the very time of our crossing the lane of water as mentioned above, the ice was in the act of opening out, and continued to do so for the rest of the night; so that on the morning of the 21st, the ships were nearly in clear water, while the weather became so thick in an hour after our arrival, that we could scarcely see a quarter of a mile for two days afterwards. At eight A.M. we got under way, with a view of endeavouring to find the margin of the fixed floe, by which alone we could hope to hold our ground against the ice which we knew to be drifting down from the westward. In this attempt we succeeded, and ran along it for a short distance, when the fog coming on more thick than ever, we made fast in thirty-two fathoms, being about four miles to the northward and westward of Neerlo-Natko. Wed. 21.

On the 22d we twice made a mile or two along the edge of the floe, whenever the weather permitted us to see a short distance a-head; but the soundings being now too deep to give us warning of our approach to the Bouverie Islands, we made fast in the evening in fifty-seven fathoms, the more decayed state of the ice appearing to indicate our being near enough to the land. The wind was very light from the eastward, and the state of the weather rendered the ship so moist and unwholesome below that it was Thur. 22.

1822. August. necessary to light a fire in the warming stove, by which an inconceivable degree of dryness, warmth, and healthy ventilation was produced in the course of two or three hours. Several white whales were playing about the ships, and a number of sillocks from four to eight inches in length, observed near the small pieces of drift-ice. It appeared to us a remarkable coincidence that the last time we had met with sillocks, which was in the entrance to the Duke of York's Bay, white whales seemed to be hemming them in upon the shores in shallow water.

Frid. 23. The ice coming in upon us soon closed the open space through which we had been sailing; and at half-past two A.M. on the 23d, a partial clearing of the weather discovered to us the islands at the distance of a mile and a half to the N.W.b.W. The wind veering to the N.N.E. in the course of the afternoon, the weather became more clear; but the breeze freshening at night brought the whole body of external drift-ice upon us with considerable pressure.

Sun. 25. On the 25th the wind having at length backed to the W.N.W., the prospect began to brighten; the ice in the fair-way of the Strait soon acquiring motion to the eastward, and that near the ships shortly after beginning to drive, though more slowly, in the same direction. Half an hour after noon, as soon as there appeared the least chance of making any progress we made sail and prepared for moving the Fury. On heaving upon the hawsers, however, in order to cast the ship's head towards a lane of water not two hundred yards distant, we found her so compactly "soldered," as the sailors aptly call it, between the masses of ice by the late pressure from without, that all our power was insufficient to move her head a single degree of the compass. Captain Lyon having suggested the mode of pulling us out by making sail on the Hecla, which the ice had entirely left, it was tried without effect, the masses having so effectually overlaid each other by the pressure as, with the assistance of a slight degree of frost, to form one body almost as compact as a solid floe. No better success attended an attempt to detach one piece after another, beginning from the outside, by the Hecla's dragging upon them under all sail, for the ship was brought up without the masses separating. One only method and that a slow and laborious one remained, which was to employ all hands from both ships with handspikes, axes, and saws, to detach and force off one or two masses at a time. This plan at length effected our release; and at nine P.M., after eight hours' incessant labour bestowed upon an obstacle apparently so trifling, we got into clear water and stretched to

the northward, the main ice having in the meantime disappeared so effectually that nothing was eventually lost by our late detention. After standing on for an hour or two we had scarcely any ice about us, and by midnight were entirely clear of it. 1822. August.

The wind gradually falling was succeeded by a light north-easterly breeze, with which at daylight on the 26th we steered under all possible sail up the Strait. The course being shaped and no ice in our way, I then went to bed; but was immediately after informed by Mr. Crozier that the compasses had shifted from N.½E., which was the course I left them indicating, to E.½N., being a change of seven points, in less than ten minutes. After running half a mile in a true W.b.N. direction, the needles began to return to their true position; in half a mile farther they had resumed their proper direction and agreed exactly at North. Having sent a boat to the Hecla immediately on our noticing the first alteration, I found from Captain Lyon that a similar phenomenon was observed to take place on board that ship, which was following in our wake. The breeze slowly increasing from the eastward, and the weather happily remaining unusually clear for that direction of the wind, we soon arrived off the narrow part of the Strait, immediately on opening which, we met a tide or current running above two knots to the eastward with numerous eddies and ripplings. By keeping on the south or continental shore, and passing along by Cape North-East, within two or three hundred yards of the rocks, we succeeded with the assistance of the boats a-head in getting through the channel soon after eleven o'clock. Mon. 26.

The length of this narrowest part of the Strait is three miles, in an E.b.S. and W.b.N. direction; it is two miles across and nearly uniform in its width the whole way through. The rocks of red sandstone on the south side shelve gradually down from a height of three or four hundred feet, so that in sailing through we had generally two fathoms more depth of water on the outer than on the inner side of the ship, the soundings continuing deep however almost close to the shore. The opposite or northern land of the narrows, where on closer examination we found several islands, is also high, but less shelving than the other, and presenting when clear of snow a much darker appearance. The eastern point of the entrance on this shore, which I named Cape Ossory, has a small rocky islet lying close off it, upon which there was much heavy ice aground. In several other places also on both sides, but particularly on the south shore, large heaps of ice lay piled up upon the rocks

1822. August. in one or two spots to the height of forty or fifty feet. The current in mid-channel was running three or four knots to the eastward when we came through, and nothing but the boldness of the shore would have enabled us to effect a passage, as the wind was too light to stem the stream in the middle.

Steering to the southward of the island before seen from Cape North-East, in order still to keep along the continental shore, we passed between two dangerous shoals, one of which runs off from the island and the other lies quite by itself, about midway between this and the main-land. The latter was at this time pointed out by a great quantity of heavy ice lying aground upon it, as well as by a yellow sandstone rock that made its appearance in one or two places just above the surface of the water. After clearing these, and again deepening our soundings, we had begun to indulge the most flattering hopes of now making such a rapid progress as would in some degree compensate for all our delays and disappointments, when, at once to crush every expectation of this sort, it was suddenly announced from the crow's-nest that another barrier of *fixed* ice stretched completely across the Strait, a little beyond us, in one continuous and impenetrable field, still occupying its winter-station. In less than an hour we had reached its margin when, finding this report but too correct, and that therefore all further progress was at present as impracticable as if no Strait existed, we ran the ships under all sail for the floe, which proved so "rotten" and decayed that the ships forced themselves three or four hundred yards through it before they stopped. Keeping all our canvass spread we then tried to break the thin edges about the numerous holes, by dropping weights over the bows, as well as by various other equally ineffectual expedients; but the ice was "tough" enough to resist every effort of this kind, though its watery state was such as to increase if possible our annoyance at being stopped by it. The passage to the northward of the island was not even so clear as this by above two miles of ice, so that in every respect our present route was to be preferred to the other; and thus after a vexatious delay of six weeks at the eastern entrance of the Strait, and at a time when we had every reason to hope that nature, though hitherto tardy in her annual disruption of the ice, had at length made an effort to complete it, did we find our progress once more opposed by a barrier of the same continuous, impenetrable, and hopeless nature as at first!

We lay here in thirty-six fathoms on a soft bottom, being about a mile and a

half from the high rugged land of the continent to the south, and a mile and three-quarters from the island, which is comparatively low. Some sea-water taken up from the surface in passing through the narrows, was found by Mr. Fisher to be of the specific gravity 1.0263, at the temperature of 52°. 1822. August.

The wind being light and variable on the 27th, two boats were sent to the island and two to the main-land by way of examining the natural productions, of which I shall have occasion to speak more fully hereafter. Specimens of every thing noticed were brought on board by our gentlemen, and the following remarkable observations made on the tides, the first being Lieutenant Reid's report on the main-land, and the second that of Mr. Henderson's on the island: "The tide was found to ebb by the shore from thirty minutes past nine till thirty minutes after eleven A.M., the fall being four inches. From thirty minutes past eleven to fifteen minutes after noon it rose one inch, and then fell four inches till two P.M., when the boat left the shore." "Landing on the island at twenty minutes past nine A.M. the tide was observed to fall six inches till thirty minutes past eleven, from which time till noon it rose an inch and a half, then ebbed eight inches till thirty minutes after two P.M." The tide, being tried in the offing by the small boat moored to the bottom, was found to set as follows: Tues. 27.

h. m.			per hour.
At 9.10 A.M.	.	E.S.E.	. $\frac{1}{4}$ mile
„ 11.15 „	.	W.S W.	. $\frac{1}{10}$ „
„ 2.0 P.M.	.	Westward	. $\frac{1}{4}$ „
„ 4.0 „	.	Do.	. $\frac{1}{4}$ „

Between seven and eight P.M. the loose ice began to leave the floe edge, and to drift against a light wind to the eastward. By these and our subsequent observations on the tides in this part of the Strait, it seems apparent that the phenomena, both of the stream and of the rise and fall of the water, are the joint effects of a tide and a current, the latter in general setting to the eastward at this season.

The weather being warm, a sensible alteration was produced in the appearance of the ice in the course of the day, and we could not now communicate between the two ships by walking over the floe, without the assistance of planks. This circumstance encouraged me once more to attempt getting the ships through it to the westward, by employing the method of sawing and sinking, though where this labour was to end it was not easy to guess, as our parties on shore had not been able to discover from the hills any indication of open water in that direction. The saws and other geer

1822. August. were, however, prepared for this attempt at four o'clock the following morning.

Wed. 28. The weather became so thick with rain and snow in the course of the night, that we could not see half a mile in any direction; but about one A.M. on the 28th, we began to perceive, by a gradual alteration in the soundings, that the ice to which the ships were attached was adrift. No time was therefore to be lost in getting the ships under way, to be at liberty to act as circumstances might require, for we did not know in what direction we were driving. The weather now became so much thicker, with snow in large flakes, that we could with difficulty see three hundred yards a-head. We stood to the eastward, however, and after getting sight of the grounded ice on the shoals, tacked off and on till we should see how the floe we had left was driving. It was not long before we perceived it to be setting directly on the shoals, so that it was necessary for us to find our way between them, at all risks, to avoid the certain danger of being forced upon the rocks. In making a tack near the shoals, the Fury's helm was put down in eight fathoms, but before the sails filled, the ship was carried by the current into three, and the yellow rocks were plainly visible under her. She gathered way, however, just in time to avoid grounding, and the Hecla, presently after, escaping a similar accident near the same spot, we cleared the shoals in another tack or two, and then stood to the eastward.

Proceeding with all the caution which the state of the weather, and the extremely confined nature of the navigation, rendered requisite, we soon made the northern land of the narrows, within a mile of which we remained for several hours, endeavouring to find some sheltered anchorage, the wind being fresh from the N.N.W. and the weather becoming still more inclement than before. So steep, however, was this shore, that we could obtain no soundings with eighty-eight fathoms of line at half a mile distance, and generally found from thirty to twenty-six within a cable's length of the rocks, in every little nook the boats entered. In the evening, finding the weather not likely to improve, and that the situation of the ships, if kept under way during the night in this narrow and unknown channel, must be a very dangerous one, we bore up to make the island, in the hope of finding shelter under one of its numerous low points. In this last resource we were not disappointed; for in an hour's run we made the island, which was now so covered with snow as to be easily mistaken for a floe of ice without great attention to the leads; and with a degree of good fortune which has never

yet deserted us in such cases, we succeeded in picking out an excellent anchorage in eleven fathoms, where we passed a thick, snowy, and dark night, without any disturbance from wind or ice. 1822. August.

As soon as the anchors were dropped, my attention was once more turned to the main object of the Expedition, from which it had for a moment been diverted by the necessity of exerting every effort for the immediate safety of the ships. This being now provided for, I had leisure to consider in what manner, hampered as the ships were by the present state of the ice, our means and exertions might during this unavoidable detention be employed to the greatest advantage, or at least with the best prospect of ultimate utility.

Whatever doubts might at a distance have been entertained respecting the identity, or the contrary, of the place visited by Captain Lyon with that subsequently discovered by myself, there could be none on a nearer view; as, independently of the observed latitude, Captain Lyon could not, on approaching the narrows, recognise a single feature of the land; our present channel being evidently a much wider and more extensive one than that pointed out by Toolemak on the journey. It became, therefore, a matter of interest, now that this point was settled, and our progress again stopped by a insuperable obstacle, to ascertain the extent and communication of the southern inlet; and, should it prove a second strait, to watch the breaking up of the ice about its eastern entrance, that no favourable opportunity might be missed of pushing through it to the westward. Hitherto, as I have before remarked, the question respecting the existence of a second passage, had been wholly unimportant as concerned the movements of the Expedition, because we could see, at the time of our entering the present strait, that the only possible track to the other was blocked by solid and continuous ice. The mortifying prospect however of a second detention in this strait, added to the consideration of the sudden changes that often take place in the state of the ice, rendered it again necessary to revert to the southern inlet, to which, but a few days before, we had ceased to attach any importance. I therefore determined to despatch three separate parties, to satisfy all doubts in that quarter, as well as to gain every possible information as to the length of the Strait, and the extent of the fixed ice, now more immediately before us.

With this view, I requested Captain Lyon to take with him Mr. Griffiths and four men, and proceed over land in a S.b.E. direction, till he should determine by the difference of latitude, which amounted only to sixteen miles, whether there was or was not a strait leading to the westward, about the

1822. August. parallel of 69° 26′, being nearly that in which the place called by the Esquimaux *Khe·ig* had been found by observation to lie. This appeared a simple and effectual method of deciding a question, on which the operations of the Expedition might ultimately depend. In the mean time, Lieutenant Palmer, was directed to proceed in a boat to Igloolik, or Neerlo-nakto, as might be necessary, to ascertain whether the passage leading towards Khemig was yet clear of ice; and, should he find any one of the Esquimaux willing to accompany him to the ships with his canoe, to bring him on board as a pilot. The third party consisted of Mr. Bushnan, with three men, under the command of Lieutenant Reid, who was instructed to proceed along the continental coast to the westward, to gain as much information as possible respecting the termination of our present strait, the time of his return to the ships being limited to four days, at the expiration of which the other two parties might also be expected to reach us.

By this arrangement, in which the connexion of each expedition with the others, and that of the whole with our main object, will easily be perceived, I hoped to gain such information as would either confirm my determination to continue our efforts in the present station of the ships, or point out, beyond any doubt, the expediency of transferring them to some other quarter. Having gone on board the Hecla to communicate my views and intentions to Captain Lyon, I directed every thing to be in readiness for despatching the parties at noon on the following day.

Thur. 29. On the morning of the 29th, the wind being light from the eastward but the weather much more clear than before, we weighed and stood over to the main-land with the intention of putting our travellers on shore, but found that coast now so lined with the ice which had lately broken adrift, that it was not possible for a boat to approach it. We could not help at this time congratulating ourselves on the fortunate escape we had experienced, in not having already cut any distance into the floe before it separated; for in such a case it would hardly have been possible to escape driving on shore with it. Standing off to the westward, to see what service the late disruption had done us, we found that a considerable floe had separated, exactly in a line between the island off which we lay and a second to the westward of it, subsequently named, at Lieutenant Hoppner's request, in honour of Lord Amherst*. Tacking at the newly-formed margin of the fixed ice, we observed,

* These two islands are probably those delineated by Iligliuk in this situation, in her chart, (No. 2.)

not only that it was still firmly attached to the shores, but that it was now almost entirely "hummocky," and heavier than any we had seen since making Igloolik; some of the hummocks, as we afterwards found, measuring from eight to ten feet above the surface of the sea. 1822. August.

The different character now assumed by the ice, while it certainly damped our hopes of the passage being cleared this season by the gradual effect of dissolution, confirmed however, in a very satisfactory manner, the belief of our being in a broad channel communicating with a western sea. As the conclusions we immediately drew from this circumstance may not be so obvious to others, I shall here briefly explain that, from the manner in which the hummocky floes are formed, it is next to impossible that any of these of considerable extent can ever be produced in a mere inlet having a narrow communication with the sea. There is in fact no ice to which the denomination of "sea-ice" may be more strictly and exclusively applied than this; and we therefore felt confident that the immense floes which now opposed our progress, must have come from the sea on one side or the other; while the current, which we had observed to run in an easterly direction in the narrows of this strait, precluded the possibility of such ice having found its way in from that quarter. The only remaining conclusion was, that it must have been set into the Strait from the westward towards the close of a summer, and cemented in its present situation by the frost of the succeeding winter.

Standing back towards the Eastern Island, which I named after my friend and late companion in these regions, Captain Matthew Liddon of the Royal Navy, and finding the shore quite clear of ice, we dropped our anchors under its lee in twelve fathoms, on a muddy bottom, at the distance of half a mile from the beach. We had scarcely secured the ships, however, when some large masses of heavy drift-ice began to set toward us, and several of these successively coming in contact with the Fury's bows and cable, I directed the anchors to be immediately weighed again, rather than run any risk of damage to them; and sailing over to the fixed ice, made our hawsers fast to it and lay securely for the night.

A great deal of snow having fallen in the last two days, scarcely a dark patch was now to be seen on any part of the land, so that the prospect at daylight on the 30th, was as comfortless as can well be imagined for the parties who were just about to find their way among the rocks and precipices. Soon after four A.M., however, when we had ascertained that the drift-ice was no longer lying in their way, they were all despatched in their different Frid. 30.

1822. August. directions. For each of the land-parties a depôt of several days' provision and fuel was, in case of accidents, established on the beach; and Lieutenant Palmer took in his boat a supply for nine days.

The fact of our never having seen a stream of tide or current setting through the narrows of the Strait in any direction but to the eastward, made it an object of curiosity to ascertain by observation on the spot during at least two consecutive tides, whether or not a permanent current existed there. I determined therefore on despatching Mr. Crozier on this service; and the absence of so many of our people necessarily limiting our means, his establishment only consisted of the small nine-feet boat and two marines, with which he left us under sail at one P.M., being provisioned for four days. I directed Mr. Crozier to land and pitch his tent somewhere about Cape North-East, and after carefully observing the tides, both on shore and in the offing, for the whole of one day, immediately to return to the ships. The weather improving as the day advanced, a good deal of snow disappeared from the islands, but little or none on the rugged high land of the continent.

Sat. 31. On the 31st, the wind blew fresh and cold from the north-west, which caused a quantity of ice to separate from the fixed floe in small pieces during the day, and drift past the ships. Early in the morning, a she-bear and her two cubs were observed floating down on one of these masses, and coming close to the Hecla were all killed. The female proved remarkably small, two or three men being able to lift her into a boat. A large party of us from each ship passed several hours on shore at Liddon Island, in examining its natural productions. The basis of this island, which rises perhaps in some parts two hundred feet above the level of the sea, is a brownish sandstone, though the same substance is abundantly found of different colours, such as red of various shades, dark brown, white, and striped with curved lines in the manner described near Cape North-East. On the higher parts of the land, nodules of white quartz, from an inch and a half in diameter to the size of a grain of sand, are found in large quantities imbedded in the sandstone rock, and a great variety of other substances are lying in loose pieces on the beach. Of these one of the most abundant was a species of ironstone which, from its weight, appeared to be a rich ore; and a large rock on the beach contained a good deal of asbestos. A great variety of other specimens were procured from this island, which was however almost entirely barren of the productions of the animal and vegetable kingdoms. Of the former we saw only a single herd of deer, and the little vegeta-

tion which might have afforded them subsistence, was now permanently covered with a coating of snow, from three to six inches in depth, and so hard as to allow us to walk on it without sinking. The view from the high part of the island, which was a favourable situation for opening the western entrance of the Strait, was extremely satisfactory as regarded land, but not a single break could be seen in the ice, to the utmost limits of the horizon. 1822. August.

At half-past nine on the morning of the 1st of September, one of our parties was descried at the appointed rendezvous on shore, which on our sending a boat to bring them on board, proved to be Captain Lyon and his people. From their early arrival we were in hopes that some decisive information had at length been obtained; and our disappointment may therefore be imagined, in finding that, owing to insuperable obstacles on the road, of which Captain Lyon's annexed account will give the best idea, he had not been able to advance above five or six miles to the southward, and that with excessive danger and fatigue, owing to the depth of the snow, and the numerous lakes and precipices. Sept. Sun. 1.

" On striking inland we found the mountains deeply covered with snow, yet made about three miles uninterrupted, but by the precipices. At this distance we found the mountains to increase considerably in height, and they were so completely intersected by deep lakes, as frequently to oblige us to retrace our steps and toil up the same cliffs which we had but a short time before descended with considerable difficulty and danger. The depth of the recently fallen snow was from one to three feet, and where chasms occurred amongst the crags it was of course in a greater body. We here found it requisite to feel our way with poles, for had any of our party fallen into a cleft of the rocks it would have been out of our power to extricate him. The general acclivity of the mountains was so great that it became necessary to disperse in climbing or descending, least the loose fragments of a rock, or a false step, should have precipitated those beneath several hundred feet to the bottom. We were employed above eight hours to-day at this laborious work, and found in the evening that we had not made more than five miles direct from our first landing-place, for we could plainly see the open water in which the ships were lying, and with naked eye discern the grounded ice off Liddon Island. We pitched our tents under a crag on the mountain top where we passed a very cold night.

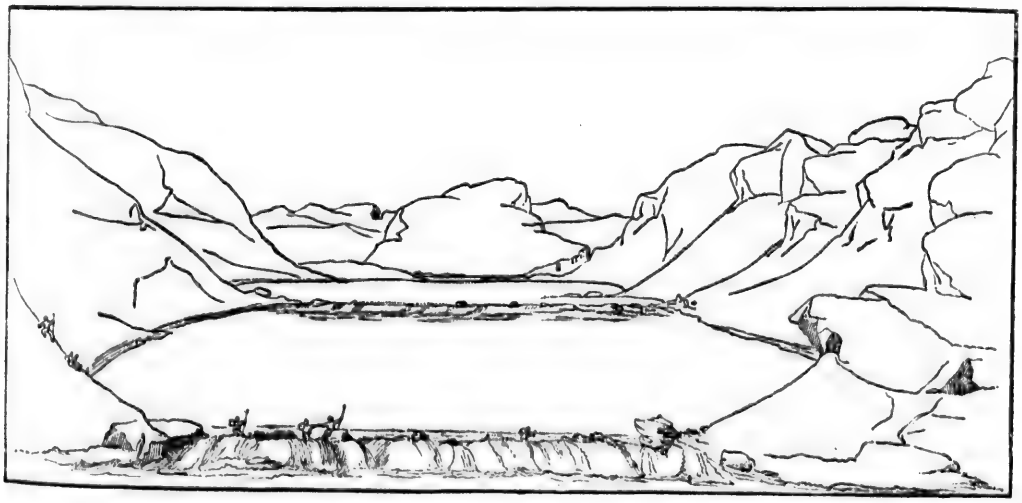
" We set out at six in the morning of the 31st, apparently with a better

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Sea, during the Month of *August*, 1822.

Day	Place.	Fahrenheit's Thermometer.			Sea Water at the surface.			Barometer.			Prevailing Winds.		Prevailing Weather.
		Maximum.	Minimum.	Mean.	Mean Temp.	Specific Gravity	Temp. when weighed	Maximum.	Minimum.	Mean.	Direction.	Velocity.	
		°	°	°	°	°	°	inches	inches	inches			
1	Off the Eastern Entrance of the Strait of the Fury and Hecla.	34	30	32.75	31.33	1.0265	55	29.58	29.39	29.483	ESE	modt.	hazy and rain
2		39	32	36.04	32.42			29.62	29.59	29.603	NE	modt.	cloudy
3		50	33	39.37	31.83			29.62	29.48	29.578	AM. NE PM. SW	light	fine
4		39	29½	34.54	31.50	1.0243	56	29.61	29.43	29.530	SW to NW	modt.	cloudy, rain at times
5		40	28	34.33	31.00			29.61	29.56	29.582	South	modt.	cloudy, rain at times
6		44	30	37.42	31.42			29.57	29.52	29.542	NW	light, calm at times	fine
7		44	31	35.25	32.11	1.0261	51½	29.52	29.49	29.508	WNW	modt.	fine
8		37	31	33.42	32.67			29.57	29.44	29.503	WNW	light	hazy and rain
9		35	30	32.92	31.54			29.53	29.37	29.460	S to WNW	light	hazy, rain at times
10		48	32	36.37	31.92			29.54	29.45	29.495	SW	modt.	cloudy
11		38	30	33.96	31.67			29.71	29.60	29.663	WbN	modt.	fine
12		32	30	31.04	31.42			29.48	29.20	29.312	SSE	strong to light	hazy, snow and sleet
13		41	30½	34.04	31.75			29.38	29.22	29.297	Westerly	light	foggy, rain at times
14		36	30	33.04	31.42			29.51	29.38	29.412	WNW	modt	cloudy
15		38	32	34.42	31.12			29.40	29.38	29.395	NWbW	modt.	cloudy
16		36	31	33.17	31.21			29.43	29.40	29.413	NNW	modt.	hazy and snow
17		36	30	32.62	31.37			29.60	29.48	29.553	NWbW	light	cloudy
18		40	30	34.08	31.83			29.64	29.60	29.615	North	modt.	fine
19		39	33	35.75	32.54			29.70	29.65	29.680	round the compass	light and variable	cloudy
20		38	33	34.58	32.00			29.80	29.70	29.743	WNW	modt.	cloudy
21		34	31	32.67	31.50			29.64	29.54	29.602	NE	modt.	foggy and rain
22		36	30	32.71	29.96			29.51	29.33	29.438	East	light	foggy
23		40	29	33.08	29.67			29.33	29.21	29.[illegible]7	NE	modt.	hazy and rain
24		36	32	33.92	30.50			29.46	29.38	29.430	NWbW	modt.	cloudy
25	In the Strait of the Fury and Hecla.	37	30½	33.62	30.25			29.61	29.48	29.563	NW	modt.	fine
26		38	30	32.67	29.42	1.0263	52	29.70	29.60	29.650	East	light	cloudy
27		40	29	32.75	28.79	1.0256	52	29.68	29.41	29.572	ESE	light	cloudy
28		31	30	30.71	28.29			29.37	29.09	29.188	NNW	modt.	hazy and snow
29		33	29	30.42	28.54			29.36	29.02	29.173	NWbN	light	hazy, snow at times
30		35	29	32.42	28.58			29.62	29.41	29.534	AM. North PM. West	light	cloudy
31		31	27	29.92	28.20			29.82	29.62	29.728	NW	modt.	cloudy
		50	27	33.68	30.80			29.82	29.02	29.500			

prospect before us, but after scrambling about a mile found ourselves again obliged to retrace our steps in order to avoid a chain of lakes, and when after three hours' exertion we had, as we supposed, got nearly round these, another cluster of greater magnitude was discovered, and we found ourselves not five hundred yards from the spot on which we had slept. In descending a precipice one of the men lost his hold, but was fortunately arrested by a rock which lay beneath the snow, and escaped with only a severe contusion on the nose. We had been obliged to throw our knapsacks down this cliff and use the greatest caution in sliding down it, but had no sooner reached its foot than the discovery of the lake obliged us again to gain the height. Finding it impossible to accomplish the service at this rate of travelling, and having only five hours to complete the out-going time I determined on turning back, and arrived at the ships before noon on the 1st of September. 1822. Sept.

"The mountains we passed were all of gneiss and granite, and I should suppose many of them a thousand feet above the level of the sea. One chain of lakes extended east and west about six or eight miles, and they were apparently of great depth, although their width did not exceed a quarter of a mile at any part. In these were several small falls or bars, over two of which we waded. The steepness of the ridge of mountains bounding the longest extent of lakes may be better understood by the outline I took on the spot.



1822. Sept.

"The upper or craggy part was of solid granite, and the slope of its debris, which however was in most cases deeply covered by snow. In all the lakes was a sheet of solid ice, detached from the banks and floating in the centre. Its thickness *above* water was from six to twelve inches. The little vegetation we saw was shrivelled and dry, which may account for the absence of deer. We saw numerous tracks of them near the lakes, but they were not recent, and may have been made while the animals were herding for their final departure; a few small flocks of buntings were seen as if also assembled to migrate to the southward."

Sun. 1.

Being thus by a combination of untoward circumstances baffled in an endeavour which had appeared almost certain of success, we had only to await with patience the arrival of our other parties; scarcely however venturing to hope that their information alone could prove of any great interest or importance in furthering our main object. The north-west wind freshening almost to a gale, which made me somewhat apprehensive for Mr. Crozier and his little establishment at the Narrows, I despatched Mr. Ross, at seven this evening, to carry him a fresh supply of provisions and to assist him on his return to the ship. At the same time I directed Mr. Ross to occupy the following day in examining the portion of land forming the northern shore of the Narrows, which we had some reason to suppose insular.

Mon. 2.

At nine A.M. on the 2d, Lieutenant Reid and his party were descried at their landing-place, and a boat being sent for them arrived on board at half-past eleven. An account of this journey, which was accompanied by a sketch of the coast, is here subjoined.

August. 30.

"Landing at six A.M. on the 30th, we commenced our march about due west along the coast, though not in a direct line, the hills being in many parts perpendicular down to the water, and we had to cross one inlet in which the ice was broken up. At noon we arrived at an inlet, from a quarter of a mile to a mile and a quarter in width, with a rapid run of water, having in it two small islands, and in part covered with ice. Following the stream down to the sea, without finding a fording-place, we ascended the banks, and at length crossed upon the ice with much difficulty. Dining on

the west side we continued our journey, and at half-past six pitched our tents for the night. This day's journey was from hill to hill, over extremely rugged land, frequently interrupted by lakes, which made the course so circuitous that, though in a direct line we could not have advanced more than fifteen miles, we had probably traversed twice that distance. 1822. Sept.

"Setting out at four A.M. on the 31st, we now kept more inland than before, and descended into a deep valley, having at the bottom a rapid stream, which we were obliged to follow nearly to the sea before we could cross it, after which we got upon tolerably good ground leading gradually up to the hills. We then again began to ascend, hill after hill rising in succession, and the rugged ground being covered with large loose stones, having the space between them filled with snow, which made the walking heavy and dangerous. At noon we had gained a hill of considerable height, having walked sixteen miles, and now found ourselves due west of the ships, distant about six leagues. From this station, which was in some respects a commanding one, the bearings and an eye-sketch were taken by Mr. Bushnan, but the land still interrupted our view to the westward, so that in that direction very little more could be ascertained with respect to the extent of the Strait than might be seen from the ships. Notwithstanding this circumstance however, as our provisions were half expended, I deemed it prudent to proceed no farther, especially as the road was now so rugged, that little or nothing more could be effected in a few hours' travelling. At three P.M. therefore we set out on our return to the eastward and reached the Fury before noon on the 2d. 31.

"In the course of our journey only six rein-deer were seen; but the tracks of these animals, as well as of bears and foxes, were numerous. From our farthest station on the western hills, which rise perhaps from eight to nine hundred feet above the sea, we observed another head-land beyond the extreme point seen from the ships, and distant from it about three or four leagues; but the intervention of other land prevented our discovering the trending of the coast further to the westward. The northern land is extremely high, and its western point appeared about ten leagues distant, leaving an extensive opening in that direction. The ice seemed to extend from Amherst Island as far as we could see to the westward, presenting one unbroken surface from the north to the south shore of the Strait."

1822. Sept. Notwithstanding every exertion on the part of our travellers, their labours had not thrown much light on the geography of this part of the coast, nor added any information that could be of practical use in directing the operations of the ships. The important question respecting a second passage leading to the westward still remained as much a matter of mere conjecture as at first; while the advanced period of the season, and the unpromising appearance of the ice now opposing our progress, rendered it more essential than ever that this point should, if possible, be fully decided. Under this impression, it occurred to me that the desired object might possibly be accomplished, by pursuing the route along the head or western shore of Richards' Bay, part of which I had already traversed on my former journey, and found it much less laborious walking than that experienced by Captain Lyon on the higher and more rugged mountains inland. I determined therefore to make this attempt, taking with me Mr. Richards and most of my former companions, and proceeding in a boat as far as the isthmus mentioned on the 17th of August, from whence our journey might at once be advantageously commenced.

Tues. 3. This night proved the coldest we had experienced during the present season, and the thermometer stood at 24° when I left the ships at four A.M. on the 3d, having previously directed Captain Lyon to remain as near their present station as might be consistent with safety, and carefully to watch for any alteration that might occur in the western ice. I also requested Captain Lyon to render Mr. Fisher every assistance in his power in the trigonometrical measurement of some high snow-capped hills to the north-west, which at my desire he had undertaken. To the land on which these mountains stand, and which the Esquimaux call *Keiyuk-tarruoke*, I gave the name of Cockburn Island, in honour of Vice-Admiral Sir George Cockburn, one of the Lords Commissioners of the Admiralty, whose warm personal interest in every thing relating to Northern Discovery can only be surpassed by the public zeal with which he has always promoted it.

Being favoured by a strong north-westerly breeze, we reached the narrows at half-past six A.M., and immediately encountered a race or ripple so heavy and dangerous, that it was only by carrying a press of canvass on the boat that we succeeded in keeping the seas from constantly breaking into her. This rippling appeared to be occasioned by the sudden obstruction which the current meets at the western mouth of the narrows, aided in

the present instance, by the strong breeze that blew directly upon the corner forming the entrance on the south side. On clearing this, which we did after running about one-third of a mile and then getting into smooth water, though the current was running at least three knots to the eastward, the thoughts of all our party were, by one common impulse, directed towards Mr. Crozier and his little boat, which could not possibly have lived in the sea we had just encountered. It was not, therefore, without the most serious apprehension on his account that I landed at Cape North-East, where I had directed the observations to be made on the tides; and sending Mr. Richards one way along the shore, proceeded myself along the other to look for him. On firing a musket, after a quarter of an hour's walk, I had the indescribable satisfaction of seeing Mr. Crozier make his appearance from behind a rock, where he was engaged in watching the tide-mark. I found him and his party quite safe and well, though they had encountered no small danger, while attempting to try the velocity of the stream in the narrows, being beset by a quantity of drift-ice from which they with difficulty escaped to the shore. I found also that Mr. Ross, after towing them in when adrift, and leaving Mr. Crozier his provisions, had proceeded to accomplish his other object, appointing a place to meet them on his return to the ships. In half an hour after we saw the gig crossing to us under sail, and were soon joined by Mr. Ross, who informed me that he had determined the insularity of the northern land, which I therefore distinguished by the name of Ormond Island, out of respect to the Earl of Ormond and Ossory. 1822. Sept.

Having furnished our gentlemen with an additional supply of provisions, in case of their being unavoidably detained by the continuance of the wind, I made sail for the isthmus at ten A.M., where we arrived after an hour's run, and hauling the boat up on the rocks and depositing the greater part of our stores near her, set off at one P.M. along the shore of Richards' Bay, being equipped with only three days' provision and as small a weight of clothing as possible. The coast, though not bad for travelling, led us so much more to the westward than I expected, in consequence of its numerous indentations that, after above five hours' hard walking, we had only made good a W.S.W. course, direct distance six miles. One of our men then complaining of giddiness and other unpleasant symptoms, we halted and pitched the tent amidst rugged and barren rocks of red granite, dreary and desolate beyond description. A single snow-bunting was literally

1822. Sept. all we saw of animal life during this afternoon's walk; but the tracks of deer, all going to the southward, were everywhere seen upon the snow. We obtained on every eminence a distinct view of the ice the whole way down to Neerlo-nakto, in which space not a drop of clear water was discernible; the whole of Richards' Bay was filled with ice as before.

Wed. 4. We moved at six P.M. on the 4th, and soon came to a number of lakes from half a mile to two miles in length, occurring in chains of three or four together, round which we had to walk at the expense of much time and labour. All these terminated towards the sea in inlets, one of which that we came to at nine A.M., and which I named after Mr. Halse of the Fury, was three or four miles in length, and detained us two hours in walking round the head of it. These inlets were still filled with ice of the last winter's formation, except close round the shores, where a narrow space of open water had been formed by the warmth of the land. We halted at a quarter past eleven, having made good four miles and a half in a S.b.W. direction, and found ourselves by observation at noon in latitude 69° 32′ 58″. Continuing our journey at three P.M. we soon arrived at the shores of another inlet like the former, two or three miles in length, up which we had to walk above two before we could make any southing. We were then for the first time enabled to proceed almost directly to the southward, our only interruption being occasioned by the numerous steep and craggy hills which every where presented themselves. At half-past five we suddenly came in sight of a high and remarkably level piece of table-land, immediately to the southward of us, and extending for several miles in an east and west direction. Along the upper part ran a narrow perpendicular ridge having a dark appearance, and the rest formed a yellow shelving slope, as if composed of the *debris* falling uniformly from above. At half-past six, on gaining a sight of the sea from the top of a hill, we immediately recognised to the eastward the numerous islands of red granite described by Captain Lyon; and now perceived what had before been surmised, that the south shore of Richards' Bay formed the northern coast of the inlet, up which his journey with the Esquimaux had been pursued. Our latitude by account from noon being now 69° 28′, we felt confident that a short walk directly to the south must bring us to any strait communicating with that inlet, and we therefore pushed on in confident expectation of being near our journey's end. At seven P.M., leaving the men to pitch the tent in a sheltered valley, Mr. Richards and myself ascended the hill that rose beyond it, and on reaching

its summit found ourselves overlooking a long and narrow arm of the sea communicating with the inlet before seen to the eastward, and appearing to extend several miles nearly in an east and west direction, or parallel to the table-land before described, from which it is distant three or four miles. The space between the creek and the table-land is quite low, forming a striking contrast with the rugged shore on which we stood, and being covered with abundant vegetation, as well as intersected by numerous ponds of water. The breadth of the little creek at the place at which we had arrived, being half a mile above its junction with the wider inlet in which the Coxe Islands lie, is about half a mile, and continues nearly the same for three or four miles that we could trace it in a westerly direction. Beyond this it seemed to turn more northerly, and our view being obstructed by the high and rugged hills of which, on the north side of the creek, the whole tract of country is composed, I determined to pursue our journey along its banks in the morning, to ascertain its further extent, or at least to trace it till it was no longer navigable for ships. That the creek we now overlooked was a part of the same arm of the sea which Captain Lyon had visited, the latitude, the bearings of Igloolik which was now plainly visible, and the number and appearance of the Coxe Islands, which were too remarkable to be mistaken, all concurred in assuring us; and it only therefore remained for us to determine whether it would furnish a passage for the ships. Having made all the remarks which the lateness of the evening would permit, we descended to the tent at dusk, being directed by a cheerful blazing fire of the *andromeda tetragona*, which in its present dry state served as excellent fuel for warming our provisions. 1822. Sept.

Setting forward at five A.M. on the 5th, along some pleasant valleys covered with grass and other vegetation, and the resort of numerous rein-deer, we walked six or seven miles in a direction parallel to that of the creek; when, finding the latter considerably narrowed, and the numerous low points of its south shore rendering the water too shoal, to all appearance, even for the navigation of a sloop of ten tons, I determined to waste no more time in the further examination of so insignificant a place. There was not in this creek the least perceptible stream of tide or current, which circumstance alone, considering the strength of that which rushes through the Strait of the Fury and Hecla, would have been sufficient perhaps to demonstrate that it had no outlet to the westward. Its whole appearance indeed indicated it to be what it has since proved, a mere inlet of the sea, similar to those we had before passed, com- Thur. 5.

1822. Sept. municating with lakes and streams which annually pour their waters into it, affording excellent *kayak* navigation to the Esquimaux, and supplying them with the salmon with which they had lately provided us. The farther we went to the westward the higher the hills became; and the commanding prospect thus afforded enabled us distinctly to perceive with a glass that, though the ice had been entirely dissolved in the creek, and for half a mile below it, the whole sea beyond this to the eastward, even as far as Igloolik, was covered with one continuous and unbroken floe.

Having now completely satisfied myself that, as respected both ice and land, there was no navigable passage for ships about this latitude, no time was lost in setting out on our return. To avoid the numerous indentations of Richards' Bay, we kept rather more inland; by which means, though we at first encountered some of the steep precipices and deeper snow described by our other travellers, we eventually saved ourselves much walking. On this high ridge the hills, which are generally steep on both sides, and with a quantity of the loose *debris* lying up and down them, occur very close together; so that no sooner has the summit of one been gained, than another of equally forbidding aspect presents itself, the valleys between them being chiefly occupied by lakes of various sizes, all except the mere shallow ponds having a floe of solid ice covering their surface. Some of the smaller streams that supply the lakes had now been arrested by the autumnal frost, and the smallest pools on the rocks were frozen to the bottom; but the larger streams were still running in full force, and no "young" ice had as yet formed upon the lakes. The rocks are here entirely of red granite; and we frequently noticed rounded and insulated hills of this shape,

situated at the end of a valley, and appearing as it were to flank it.

Frid. 5. Nothing of interest occurred during the rest of our journey to the boat, which we reached before dark on the evening of the 6th, having suffered only a few trifling bruises in the course of our scrambling over the rocks. The thermometer fell to 19° at night, but our depôt at the boat furnishing

abundance of additional clothing, we found the tent as warm as could be desired; which was by no means the case at this season when we were lightly equipped for travelling. The night was beautifully clear, with a bright moonlight; but a cloud of dense vapour hung over the land in most parts, which was not entirely dissipated until late on the following day. 1822. Sept.

We launched the boat at day-break on the 7th, and on arriving at the narrows, were glad to find that our other boats had left the place. The current was as usual setting to the eastward, and in one place about the middle of the narrows, where a large collection of squeezed-up ice formed a small projecting point, it ran full four knots. Rowing over to the north shore, we landed there to dine at a quarter past eleven, which was just the time of high water, on an islet at the entrance of a bay. While resting here we observed the small pieces of ice setting fast to the westward, and proceeding at two P.M., found the boat favoured by a considerable tide in the same direction. This we kept till about five P.M., when we had reached Liddon Island, and were there met by a tide from the westward, it being then about low water by the shore; from which it seemed reasonable to conclude that the flood-tide came from the westward. At half-past eight we arrived on board, where I was happy to find that all our parties had returned without accident, except that Lieutenant Palmer had been wounded in his hand, and temporarily blinded by a gun accidentally going off, from which however he fortunately suffered no eventual injury. Lieutenant Palmer reported his having ascertained that the ice still remained attached to the land from the western part of Igloolik across to the continent, precluding all possibility of a passage to the westward in that direction. Lieutenant Palmer's report contained numerous observations for the geographical position of the parts of the land which he visited, and some notices respecting the Esquimaux mode of burial, which will be given in another place. Sat. 7.

No alteration had taken place in the state of the ice during my absence, except what was occasioned by a few small pieces now and then breaking off from the margin, which however scarcely effected a change that was sensible in the course of several days. The ships had therefore remained undisturbed at the station where I left them; and in order to occupy the time as usefully as possible, Captain Lyon had despatched a party under the command of Lieutenant Hoppner to travel along some low land next the sea, to the westward; with the hope of his thus being enabled, by escaping the rugged ground encountered by Lieutenant Reid, to add something more to

1822. Sept. our knowledge of the continental shore of the Strait. Lieutenant Hoppner had just returned from this excursion, an account of which, together with those of Messrs. Crozier and Ross, will bring up the narrative of our proceedings to this time.

MR. CROZIER'S ACCOUNT OF THE TIDES.

"During the time of our stay at the narrows of the Strait no opportunity was lost of continuing our observations on the tides, an abstract of which is contained in the following Table. By these it will be perceived that in mid-channel the stream constantly set to the eastward from daylight till dark, and that when on the south shore a westerly set was observable, the tide was generally falling. In rowing along the north shore of the narrows, on our return we had a strong westerly set of at least two miles an hour, from thirty minutes after eleven A.M. till thirty minutes after two P.M. on the 3d, during most of which time the tide was ebbing by the shore, and having landed the same evening upon the east end of Liddon Island, we found it high water at seven P.M., being about an hour *earlier* than the last observed tide in the narrows.

Tide Table in the Narrows of the Strait of the Fury and Hecla.

Day. 1822.	High Water. H.M.	High Water. A.M. or P.M.	Low Water. H.M.	Low Water. A.M. or P.M.	Rise of Tide.	Fall of Tide.	REMARKS, &c.
					ft. in.	ft. in.	
Aug. 31.	6.20	A.M.	0.40	P.M.		5.10	The stream in mid-channel was setting to the eastward during the whole day. From 4.30 A.M., till 11, an eddy set along the south shore to the westward. About 1 P.M. it began to run to the eastward, and continued to do so the rest of the day. From 6.15 P.M. till 7.10, the water neither rose nor fell by the shore.
	6.15	P.M.			5.2		
Sept. 1*.	6.40	A.M.	0.50	P.M.		7.0	The stream constantly running to the eastward in mid-channel. An eddy setting to the westward close to the south shore till near noon. At 1 P.M. it again set to the eastward and continued to do so till dark. * It was full moon at 6.54 A.M. this day.
„ 2.	7.30	P.M.	1.30	P.M.	8.9		No eddy nor slack was observed this day, the wind being strong from the westward. The current constantly setting fast to the eastward; at about 8 A.M. not less than four miles per hour.
„ 3.	about 8	A.M.					This tide, by the mark on the rocks, rose two inches above that of the preceding evening, being also the highest of any we observed.

"From these observations it would appear that the regular stream of flood-tide sets to the eastward, and that of the ebb to the westward, in this Strait; though, at this season, the latter is not always perceptible, on account of the rapid current permanently running against it in an easterly direction." 1822. Sept.

After towing Mr. Crozier to the shore, under circumstances of considerable danger to that gentleman's party in their little boat, Mr. Ross immediately proceeded in execution of the service with which he was charged, and landing a little to the northward of Cape Ossory, observed the latitude to be 69° 43′ 30″. He then rowed along the shore to the northward, passing one or two bays and several small islands, and landed in the evening upon a rugged islet, a quarter of a mile long, from whence he had the passage directly open between Ormond Island and the northern shore, and afterwards perceived an island lying towards its western opening, which had before been noticed from the opposite side. The rocks along this coast were found to be composed of greyish gneiss, and on some of the islands numerous masses of reddish granite also occurred, lying detached upon the surface. On the small islet adjoining Cape Ossory, Mr. Ross noticed a broad vein of dark-coloured hornblende, imbedded in the gneiss; and a similar structure presented itself near a small bay just to the northward of it, the vein being here about thirty yards wide, forty or fifty feet high, and reaching as far under water as could be distinguished. The appearance of this, at a short distance, was not unlike that of a high pile of coal, and from the direction it took, it seemed to be a continuation of the vein before noticed.

Mr. Ross's report, of which I have here given a brief abstract, contained also a variety of useful angles, observations, and other hydrographical materials, by which the whole of this part of the coast has been laid down on the chart.

LIEUTENANT HOPPNER'S REPORT.

"Landing on Amherst Island at five A.M. on the 6th, we hauled the boat on shore, and proceeded with three days' provisions towards the western end of the passage dividing the island from the main-land. The tide being out, we experienced some difficulty in reaching the firm ice in the centre of the

1822. Sept. passage; but having at length, by the assistance of a plank, crossed the loose pieces near the shore, we found the "young ice" connecting the rest sufficiently strong to enable us to pass over it with ease, and we arrived on the main-land about one P.M. At two we recommenced our walk alongshore to the westward; and as the extreme point of land seen from the ships did not seem to be more than eight miles distant, and the ground was good for travelling, I determined to leave our knapsacks and other baggage behind, and was in hopes of being thus enabled to obtain a clear view round the point before sun-set, and of returning to our tent at night. In this expectation, however, I was altogether disappointed; for after three hours' hard walking, we found the point was still at least five or six miles from us, which obliged me to give up the attempt, and to return to the tent for the night.

7th. "The distance to the western extreme being greater than I could now hope to travel in the time to which I was limited by my instructions, I ascended a high hill at five A.M. on the 7th to obtain a view of the Strait. The horizon, however, was so obscured by fog that we could only at intervals see the tops of the northern hills. Our prospect to the westward was also very limited, but as far as could be discerned, the ice appeared perfectly close and composed of high hummocks with a few heavy floe-pieces. Proceeding on our return at eight o'clock, we reached Amherst Island by noon, the young ice having every where become so firm that we might easily have returned to the ships upon it, without the assistance of a plank. The fog having now cleared away, gave us a good view from the west end of the island, where we could perceive that no land was visible for three or four points of the compass between the north and south shores of the Strait. In this space nothing was to be seen but compact heavy ice, with a white haze hanging over the horizon to the westward. Being anxious to examine also the state of the ice on the north side of the island, I left the party, when two miles short of the boat, and walked to a high ridge on that side, from which I perceived a remarkable bluff* on the north shore of the Strait, appearing to be detached from the other land, but this my position did not enable me to determine.

"I found the ice on the north side of the island perfectly close and much heavier than on the opposite shore, being generally composed of large floe-

* Afterwards called by Lieutenant Reid, Cape Hallowell.

pieces. This land, from abreast the west end of Amherst Island, changes its aspect very much, the hills becoming less rugged to the westward, and having at their foot a sloping plain covered with fine pasturage, extending in one place four or five miles towards the sea. On this plain we passed several circles of stones, placed by the Esquimaux, and others set up in a similar manner to those before observed in different parts of the coast. These did not bear the marks of having been recently visited; but the tracks of deer were so numerous, and the aspect of the country so favourable for a summer residence, that it appeared a likely place for the Esquimaux to resort to occasionally during that season." 1822. Sept.

The result of our late endeavours, necessarily cramped as they had been, was to confirm, in the most satisfactory manner, the conviction that we were now in the only passage leading to the westward that existed in this neighbourhood. There was, and indeed still is, reason to believe, from the information of the Esquimaux, that Cockburn Island extends two degrees to the northward and very considerably to the eastward of this Strait. To have abandoned without further trial the most promising place, as respects the North-West Passage, that the most sanguine mind could hope to discover, upon the chance of saving time by pursuing a circuitous route of perhaps three or four hundred miles of unknown coast, and of finding a more navigable passage two degrees farther north, I should have considered an unjustifiable departure from the plain tenor of my instructions, if not a direct abandonment of the cause in which we were engaged. Notwithstanding, therefore, the present unpromising appearance of the ice, I had no alternative left me but patiently to await its disruption, and instantly to avail myself of any alteration that nature might yet effect in our favour.

CHAPTER XII.

A JOURNEY PERFORMED ALONG THE SOUTH SHORE OF *COCKBURN ISLAND*—CONFIRMATION OF AN OUTLET TO THE POLAR SEA—PARTIAL DISRUPTION OF THE OLD ICE, AND FORMATION OF NEW—RETURN THROUGH THE NARROWS TO THE EASTWARD—PROCEED TO EXAMINE THE COAST TO THE NORTH-EASTWARD—FURY'S ANCHOR BROKEN—STAND OVER TO IGLOOLIK TO LOOK FOR WINTER-QUARTERS—EXCURSION TO THE HEAD OF *QUILLIAM CREEK*—SHIPS FORCED TO THE WESTWARD BY GALES OF WIND—A CANAL SAWED THROUGH THE ICE, AND THE SHIPS SECURED IN THEIR WINTER STATION—CONTINUED VISITS OF THE ESQUIMAUX, AND ARRIVAL OF SOME OF THE WINTER-ISLAND TRIBE—PROPOSED PLAN OF OPERATIONS IN THE ENSUING SPRING.

1822. Sept. Sun. 8. A LIGHT air springing up from the eastward on the morning of the 8th, we took advantage of it to run up to the margin of the fixed ice, which was now perhaps half a mile farther to the westward, in consequence of small pieces being occasionally detached from it, than it had been when we tacked off it ten days before. We here made fast nearly in a line between Amherst and Liddon Islands, though much nearer to the former, and in fifty-eight fathoms, on a soft muddy bottom. Though the easterly wind continued, the weather, which had been foggy in the morning, cleared up after noon and a beautiful day succeeded. At seven P.M., some water brought up from thirty fathoms' depth was at the temperature of $27\frac{4}{5}°$, and some from fifty-five fathoms at $27\frac{1}{2}°$; that at the surface being $27\frac{2}{5}°$, and of the air $25\frac{1}{2}°$, the whole being taken by the same thermometer. We noticed, however, a remarkable difference in the temperature of the surface-water on the two sides of the ship, that drawn on the starboard side being, as above stated, at $27\frac{4}{5}°$, and on the larboard 30° and $30\frac{1}{2}°$ the whole afternoon. The difference was perhaps on this occasion to be attributed to the sun being more on the larboard side than on the other;

but nearly the same thing occurred on the 11th, when the reverse was the case with respect to the sun. In every instance the water was drawn in the same bucket, and from within a foot of the ship's bends; and to whatever cause it was to be attributed, it shews in how great a degree the temperature of the surface-water may be affected by some local and perhaps trivial circumstance. A great number of seals were lying on the ice during the day, and three swans were observed flying to the south-eastward. 1822. Sept.

At daylight on the 9th, I sent Mr. Ross on shore to Amherst Island with two men, and furnished with a tent and provisions, for the purpose of registering the rise and fall of the tides, while observations were at the same time made upon the stream or current in the offing. At eight A.M. the temperature of the sea-water at the surface was . . . . . 27° Mon. 9.

At thirty fathoms' depth	27¼
At fifty-five „ „	27½
Air in the shade	28

Another clear and uncommonly beautiful day, such as we had scarcely experienced during the whole summer, gave us hopes of the season being somewhat lengthened by a mild autumn. In the evening we thought we could perceive the sun glittering on a lane of water towards the western end of the Strait, which might perhaps have been opened by the eastern breeze now blowing. Every thing however remained unmoved on our side, and a great quantity of young ice formed on the sea outside of us, so that it was scarcely practicable to get a boat out for trying the current. The pools on the floes were now also so hardly frozen, that skating and sliding were going on upon them the whole day, though but a week before it had been dangerous to venture upon them.

This latter circumstance, together with the fineness of the weather and the tempting appearance of the shore of Cockburn Island, which seemed better calculated for travelling than any that we had seen, combined to induce me to despatch another party to the westward, with the hope of increasing, by the only means within our reach, our knowledge of the lands and sea in that direction. Lieutenant Reid and Mr. Bushnan were once more selected for that service to be accompanied by eight men, a large number being preferred, because by this means only is it practicable to accomplish a tolerably long journey, especially on account of the additional weight of warm clothing which the present advanced state of the season

1822. Sept. rendered indispensable. Lieutenant Reid was furnished with six days' provisions, and directed to land where most practicable on the northern shore, and thence to pursue his journey to the westward as far as his resources would admit, gaining all possible information that might be useful or interesting. Every arrangement being made, the party was held in readiness to leave the ships at daylight the following morning.

Tues. 10. Our travellers were favoured by another summer's day on the 10th, not a breath of wind stirring, and the atmosphere being extremely clear and free from clouds. Mr. Henderson being sent to Amherst Island to examine the ice along its northern shore, where we first hoped to see some alteration, reported on his return, that he had observed a crack extending from the western end of the island across towards the northern shore of the Strait, which we hoped might form a new line of separation just about to take place. In the evening two of Lieutenant Reid's party returned on board with a note, informing me that one of the men being taken ill, that officer had judged it prudent immediately to send him back with one of his shipmates to take care of him.

At four P.M. the temperature of the sea-water at the surface was . 29°

At 20 fathoms' depth . .	28½
„ 30 „ „ . .	28¼
„ 40 „ „ . .	28
„ 55 „ „ . .	28
Air in the shade	32½

the whole being taken by the same mercurial thermometer. The young ice increased very considerably in consequence of the calm weather and the unruffled smoothness of the sea, and several sheets of it drifting in towards the floe completely froze the ships in for the time, our rudders being immoveably set fast. This night was one of the clearest I ever saw, the heavenly bodies shining with uncommon brilliancy, and was succeeded on the 11th by another lovely day, similar to the three preceding ones. The temperature of the sea-water at the surface was

Wed. 11.

	at 10 A.M.	at 7.30 P.M.
	28¾	28¼
At 20 fathoms' depth	28¼	28¼
„ 30 „ „	28	21
„ 40 „ „	28	28
„ 55 „ „	21	28
Air in the shade .	28½	26½

In the morning experiments, however, the temperature of the surface, as given above, was taken on the starboard side, on which a bright sun had been shining for several hours; whereas, on the larboard or shady side the water was at the temperature of 30°, or a degree and a quarter *warmer*. A party of the Hecla's people, sent by Captain Lyon to Amherst Island, were fortunate in killing a deer. 1822. Sept.

An easterly breeze, though a very light one, served considerably to widen the crack in the ice before seen to the westward; and, as the floe had certainly not moved in our neighbourhood, a hope was excited that there must be some room to the westward to have allowed a separation to take place. We therefore anxiously looked for a strong easterly wind, as the most probable means of at length clearing a passage through the Strait. The weather continued remarkably mild and pleasant, and some thawing was going on during the day. Our hunting parties were again sent on shore to the island, but without success. Thur. 12.

Just before daylight on the 13th the floe suddenly broke between the two ships, and we were for some time in hopes that a general change was about to take place in our favour, as we could soon after perceive a good deal of open water immediately to the westward of the ice to which the ships were attached. We found, however, as the day broke, that no alteration had taken place near us but the separation of a considerable mass near the island, leaving no passage whatever into the open water seen beyond. The Hecla, happening to be fast to the broken mass, was obliged to make all sail, to stem a current that carried her with it some distance to the eastward. So far however was this current from being perceptible on or near the surface that, on making several trials, a superficial set, occasioned by an easterly breeze, was uniformly found *in an opposite direction*. Frid. 13.

The latitude of our present station was 69° 48′ 10″; the longitude, by chronometers, 83° 29′ 27″; the variation of the magnetic needle 89° 18′ 19″; and the dip, as obtained by Mr. Fisher, 88° 21′ 21″. The view of the Strait from this position was calculated to impress us with the idea of its being a magnificent passage into the Polar Sea, especially on one of the clear and cloudless days which we had lately enjoyed. One of the most striking features of this truly polar landscape is that which is presented by the snow-capped mountains of Cockburn Island, to the north-west of the ships, the highest of which Mr. Fisher determined, by accurate trigonometrical measurement,

1822. Sept.

to be one thousand four hundred and forty-seven feet above the level of the sea. The tops of these mountains have a smoothly-rounded outline; and as they were covered with snow for about one-fourth downwards from their summits as early as the 18th of August, when we first discovered them from the narrows, it is probable that they had been so during the whole summer. To the eastward of these the land becomes much more rugged though considerably lower; and in every part there appeared to be a space of shelving ground next the sea, like that over which Lieutenant Reid was now pursuing his journey.

The appearance of Amherst Island also is remarkable on account of the materials of which it is composed, which, unless covered with snow, present an aspect singularly dark, and affording a striking contrast with the surrounding lands. It was curious indeed to observe that, as if determined to preserve this singularity, the snow was always first dissolved upon this island, which, even on some very cold days, contrived to throw off its fleecy mantle when no other shore was uncovered, which circumstance may perhaps be in part attributed to the colour as well as to the other qualities of the rocks. The geological character of Amherst Island, which I had not myself an opportunity of visiting, differs from any we have hitherto met with. I am happy therefore in availing myself of the following extracts from the journals of Captain Lyon and Mr. Edwards, who walked over various parts of the island, and have been kind enough to furnish me with these notices.

"The beach on which we landed," says Captain Lyon, "was flat, and entirely covered with minute scales of black slate, and the whole of the northern side of the island that I visited consists of the same substance, lying in laminæ which are loose and easily detached, those near the surface being for the most part curiously fluted, or having small rounded ridges of a finger's breadth running in parallel lines across them. From the appearance of the ground where some broad chasms lay open, one of the seamen who accompanied me, and had been brought up in a coal country, was led to observe that he had no doubt of that mineral existing here, a short distance below the surface; but, after a narrow search, no pieces could be discovered. Towards the centre of the island we found it assume a different aspect, beyond a line that may be supposed to intersect it from east to west. The southern half was covered in many places with small amorphous masses of clay and

limestone, and some low swampy places were thinly clothed with shrivelled grass and moss; while on the northern or slaty side we could perceive no signs of vegetation. On coasting the beach to return to the boat, we passed the remains of two Esquimaux circles of stones apparently long forsaken, as no bones were found near them, and they were partly buried in the slaty beach. 1822. Sept.

"Near the place at which Mr. Ross was stationed to observe the tides, I found a most fairy-like grotto in a small cliff of black and rugged slate, through which the water as it oozed had formed most brilliant icy stalactites, five or six feet in length. These hung across the front of the cave in a variety of fanciful forms over a small basin, which was frozen as smooth as the most polished mirror. The sun shone full but powerless on the silvery icicles, which formed a brilliant contrast to the deep ebon shade of the cave behind them. The whole appearance of this little spot was of the most delicate and novel description, and I felt that neither by pen nor pencil could I do it justice.

"The base of Amherst Island," Mr. Edwards observes, "is an argillaceous schist of various qualities, from a very fine and soft to a compact coarse variety, which answers to the greywacke schist of geologists. The kinds alternate with each other, and those of intermediate quality are remarkable for having the surfaces of the laminæ divided into parallel longitudinal beds, by narrow but deeply impressed lines, such as may be seen in very coarse pastry. In some specimens these lines are intersected by others at right angles, forming small quadrilateral and elliptic elevations. One side only of the laminæ, in some varieties, is so impressed, while in others both sides are similar; in this latter case the lines on one side coincide with those on the other. Flat circular depressions are also seen occasionally upon the surface, but I did not notice any organic remains.

"The more elevated ridges of the island are formed of the disintegrating remains of a super-incumbent stratum of compact limestone. It is hard and sonorous, internally of a dark greyish blue colour; externally, where exposed to air or moisture, deeply ferruginous. It does not burn into quick lime, but contains minute veins of calc-spar, and corresponds with the calc of Kirwan. Worn blocks of sandstone, granite, gneiss, and other quartzose rocks, are scattered over the surface of the island."

The observations made by Mr. Ross upon the tides, together with those upon the set of the stream in the offing, are comprised in the following Table:—

Tide-Table at Amherst Island.

Day. 182.	Time. H. M.	A.M. or P.M.	Tide by the Shore. Rose. Ft. In.	Fell. Ft. In.	Set of the Stream in the Offing. Hour.	A.M. or P.M.	Fury's Observations.	Rate per Hour. Miles.	Hecla's Observations.	Rate per Hour. Miles.	Wind very light from
Sept.	from 4	A.M.	. .	2.0	4	A.M.	South	$\frac{1}{4}$	. . .	..	North.
	to				5	,,	S.W.	$\frac{1}{2}$	. . .	..	
	8.20				6	,,	do.	$\frac{3}{4}$	. . .	..	East.
					7	,,	do.	$\frac{1}{3}$	Westward	$\frac{1}{2}$	
	8.20	. . .	1.0	. .	8	,,	do.	$\frac{1}{4}$	do.	..	
	to				9	,,	S.b.W.	$\frac{1}{6}$	none.	..	
	10.30				10	,,	none.	..	none.	..	
					11	,,	none.	..	none.	..	
9th,	10.30	A.M.	. .	2.5½	noon	—	none.	..	none.	..	
	to				1	P.M.	S.W.	$\frac{1}{5}$	N.W.	$\frac{1}{4}$	
	5	P.M.			2	,,	West.	$\frac{1}{4}$	N.W.	$\frac{1}{2}$	
	5 to	P.M.	Stationary.		3	,,	W.N.W.	$\frac{3}{8}$	none.	..	
	5.30				4	,,	E.S.E.	$\frac{1}{6}$	none.	..	
	5.30	P.M.	7.3¼		5.20	,,	W.b.N.	$\frac{1}{4}$	W.b.N.	$\frac{3}{4}$	
	to				6	,,	S.W.	$\frac{1}{2}$	. . .	..	Calm.
	2	A.M.			8	,,	W.b.N.	$\frac{1}{1}$	. . .	..	
	2 to	A.M.	Stationary		4	A.M.	W.S.W.	$\frac{1}{2}$	. .	..	Calm.
	2.15				5	,,	S.W.b.W.	$\frac{1}{2}$	. .	..	North.
					6	,,	do.	$\frac{1}{4}$	. .	..	
	2.15	A.M.	. .	6.1¼	7	,,	do.	$\frac{1}{4}$	. .	..	N.W.
	to				8	,,	do.	$\frac{1}{8}$	. .	..	
	10				9	,,	S.W.	$\frac{1}{8}$	. .	..	
					10	,,	W.b.S.	$\frac{1}{3}$	. .	..	
	10	A.M.	0.10½		11	,,	none.	..	. .	..	
10th,	to				noon	—	S.W.	$\frac{1}{8}$	. .	..	
	noon				1.10	P.M.	West.	$\frac{1}{3}$	. .	..	
	noon		. .	1.5	2	,,	S.W.	$\frac{3}{4}$	. .	..	
	to				3	,,	do.	$\frac{1}{10}$	. .	..	
	6.25	P.M.			4.15	,,	N.W.	$\frac{1}{8}$	. .	..	
	6.25	P.M.	6.11½		5	,,	do.	$\frac{3}{8}$	. .	..	
	to				6	,,	W.N.W.	$\frac{3}{8}$	. .	..	
	3.30	A.M.			7	,,	N.E.	$\frac{1}{3}$	. .	..	S.W.
	3.30	A.M.	. .	6.6	..	..	..	..	. .	..	
	to				..	..	..	..	. .	..	
	11.30				..	..	..	..	. .	..	
					..	..	..	..	. .	..	
11th.	11.30	,,	0.1½		..	..	..	..	. .	..	
	to				..	..	..	..	. .	..	
	11.50				..	..	..	..	. .	..	
	water still rising.				..	..	..	..	. .	..	

On the 14th, while an easterly breeze continued, the water increased very much in breadth to the westward of the fixed floe to which we were attached; several lanes opening out, and leaving in some places a channel not less than three miles in width. At two P.M. the wind, suddenly shifting to the westward, closed up every open space in the course of a few hours, leaving not a drop of water in sight from the masthead in that direction. To this however we had no objection; for being now certain that the ice was at liberty to move in the western part of the Strait, we felt confident that if once our present narrow barrier were also detached, the ordinary changes of wind and tide would inevitably afford us opportunities of making progress. When a body of ice has once broken from the land and found some room to move about, the case is seldom a hopeless one; but the kind of *hermetical-sealing* which we had lately witnessed leaves, while it lasts, no resource but patience, and watchfulness. The westerly wind was accompanied by fine snow which continued during the night, rendering the weather extremely thick, and our situation consequently very precarious should the ice give way during the hours of darkness. 1822. Sept. Sat. 14.

The recent separation of the ice to the westward, while it kept alive our hopes of soon proceeding on our way, made us also at this moment somewhat apprehensive lest Lieutenant Reid and his party might, in their return to the ships, be caught upon it while it was adrift, and escape our observation during the thick weather or in the night. It was therefore with great satisfaction that, at four P.M. on the 15th, we discovered our travellers upon the ice. A fresh party being despatched to meet and to relieve them of their knapsacks, Lieutenant Reid arrived safely on board at seven P.M., having by a quick and most satisfactory journey, ascertained the immediate junction of the Strait of the Fury and Hecla with the Polar Sea. Lieutenant Reid's account, which is here subjoined, was accompanied by an accurate plan of the Strait, drawn by Mr. Bushnan, and constructed by a series of triangles extending considerably to the eastward of the Narrows, and thence carried on to Igloolik. Sun. 15.

LIEUTENANT REID'S ACCOUNT.

"At daylight on the 10th, the weather being remarkably fine, I left the Fury with my party, and on our journey towards the land found the walking 10.

1822. Sept. extremely good, the late frost having filled up all the holes and pools upon the ice. After the first four miles the character of the ice changed from the rough and 'hummocky' kind to a smooth level floe, and this continued the whole way to the land, except that in its immediate neighbourhood it was much broken up and detached; which occasioned us much difficulty and some wetting in getting to the beach. One of the Hecla's men having been taken ill about this time I determined to send him back to the ships without delay, and directed one of his shipmates to accompany and take care of him. This reduction of our number considerably increasing the loads of the rest of the party, one day's provision was deposited at the landing-place, and with the remainder we set out to the westward.

"From one till four P.M. we walked nine miles over excellent ground for travelling, and then obtained sights for the chronometer, giving the longitude 83° 58′ 30″; after which we again moved forward, and having advanced six miles in a direction a little to the northward of west, halted and pitched the tent for the night. The land over which we had this day travelled is principally composed of sandstone, with here and there a piece of granite. In the course of the day we passed the stones of an Esquimaux summer habitation, arranged as usual in a circular form, but it did not appear of recent date. The ice in the Strait still presented the same unbroken surface as that seen from the ships, except quite close in-shore, where it was detached by the action of the tides. We also observed a few narrow lanes of water here and there running into the floe, but they extended only a short distance from the land.

11. "At five A.M. on the 11th, we re-commenced our walk to the westward, and at seven came to a ravine with a rapid run of water, which we crossed after a little detention, and stopped to breakfast one mile to the westward of it. Again proceeding at nine o'clock, we continued our walk till noon, when we halted to obtain the meridian altitude, which gave the latitude 70° 00′ 05″, and soon after setting forward again, pitched our tent for the night at half-past six P.M. our day's journey being estimated at thirteen miles in a W.½N. direction. We could here perceive that the opposite or mainland gradually trended to the southward, leaving a broad entrance into the Western Sea, though covered with even and apparently unbroken ice. The weather being clear afforded us an extensive prospect to the westward, and we could now perceive that a bluff near the north shore, which had before appeared insular, formed in reality the northern point of the entrance, and

I named it CAPE HALLOWELL, out of respect to VICE-ADMIRAL SIR BENJAMIN HALLOWELL. This head-land was joined to Cockburn Island by a piece of low land not visible at any great distance, and receding considerably so as to form a fine bay, which I named after CAPTAIN WILLIAM AUTRIDGE, of the Royal Navy. To the southward of Cape Hallowell are several small rocky islets, and near these, as well as in every other part of the entrance of the Strait, the ice presented the same unbroken appearance as before. 1822.

"At half-past five A.M. on the 12th, we again set forward, and continuing our walk till nine o'clock, pitched the tent upon a rising ground, from whence we commanded a good view around us, and being near the entrance of an inlet running up to the north-eastward. The opening of the Strait into the Polar Sea was now so decided, that I considered the principal object of my journey accomplished; but being desirous of obtaining observations at this spot, and the weather being cloudy, I determined on remaining a few hours for that purpose. In the mean time Mr. Bushnan and myself walked up the banks of the inlet, which I named after my friend MR. THOMAS WHYTE, and found it to extend five or six miles in a north-east direction, its general breadth being from a mile to a mile and a half. At the head of the inlet we found two ravines running into it, and the vegetation was here more abundant than any I had seen during the voyage. We saw also the remains of two Esquimaux huts, which were old and appeared to have been winter habitations. 12.

"The sky being still clouded on the morning of the 13th, we set out on our return to the eastward, from which quarter the wind soon after freshened up with constant snow and sleet. At one P.M. on the 14th, we reached our landing-place, when we found that a great alteration had taken place in the state of the ice, there being now a considerable lane of water running off in the direction of the ships, while near the shore some pressure appeared to have taken place. On the following day, when the snow ceased falling for a short time, a still greater change was perceptible, there being in-shore a space of clear water extending three miles from east to west, and more numerous marks than before of recent pressure. Upon the whole, the change in the state of the ice since our outward journey was very striking, and seemed to afford a hope that the passage of the ships might still be favoured by some more extensive movement. 13. 14. 15.

"At half-past eleven A.M., the tide being out so as to favour our getting

1822. Sept. upon the ice, we set out for the ships, steering by a pocket-compass, as the weather was too thick to allow us to see them. Passing several 'lanes' of water, one of them of considerable breadth, and observing several places in which the ice had been thrown up by pressure, we came, at half-past one P.M. to a broad lane, with the ice in motion on the opposite side. As the direction of the ships was still uncertain, we halted here to dine, and obtaining a sight of them soon after, in a clearer interval, again set out. At four, the Fury made the signal of having discovered us, and at seven o'clock, being met by a fresh party, we arrived on board."

Mr. Bushnan remarked, in the course of this journey, that though in some places, and particularly at the head of Whyte Inlet, the vegetation was remarkably abundant, yet the plants were singularly backward and dwarfish, and flowers rare; which remark was also made by most of our other travellers. The Esquimaux huts at the head of Whyte Inlet, Mr. Bushnan describes as being one round, and the other rectangular; the latter, which was the largest, being seven feet in length, and five in breadth. They were made with large slabs of sandstone, and had every appearance of having been winter residences.

Sun. 15. The weather continuing very thick with small snow, and there being now every reason to suppose a final disruption of the fixed ice at hand, I determined to provide against the danger to which, at night, this long-wished-for event would expose the ships, by adopting a plan that had often before occurred to me, as likely to prove beneficial in unknown and critical navigation such as this. This was nothing more than the establishment of a temporary light-house on shore during the night, which, in case of our getting adrift, would, together with the soundings, afford us that security which the sluggish traversing of the compasses otherwise rendered extremely doubtful. For this purpose, two steady men, provided with a tent and blankets, were landed on the east point of Amherst Island at sunset, to keep up some bright lights during the eight hours of darkness, and to be sent for at daylight
Mon. 16. in the morning. On the 16th the north-west wind continued, but no alteration whatever took place in the ice. Small snow was almost constantly falling during the day, which once more, and permanently for the winter, as it afterwards proved, covered those parts of the land that the late fine weather

had partially cleared. A number of seals were seen upon the ice, and these were all the animals we noticed about this time. Our light-house was again established at sunset. 1822. Sept.

On the 17th, the wind freshened almost to a gale from the north-west, with thicker and more constant snow than before. The thermometer fell to 16½° at six A.M., rose no higher than 20° in the course of the day, and got down to 12° at night, so that the young ice began now to form about us in great quantities. The danger of our being seriously hampered, should the ice come adrift in the night, being much increased by this new annoyance, which we well knew to be the certain symptom of approaching winter, it became absolutely necessary to move somewhere out of the way. We therefore cast off and stood a little within the east point of Amherst Island, where a good birth was found along-side another floe of land-ice, and sheltered by the island from any thing coming up the Strait from the westward. The Fury was set fast by the young ice in the course of the night, which proved clearer than was expected, with a faint appearance of the Aurora Borealis in the N.N.W. quarter. Tues. 17.

Appearances had now become so much against our making any further progress this season, as to render it a matter of very serious consideration whether we ought to risk being shut up during the winter, in the middle of the Strait, where, from whatever cause it might proceed, the last year's ice was not yet wholly detached from the shores; and where a fresh formation had already commenced, which there was but too much reason to believe would prove a permanent one. It has been seen by what gradual steps our information was obtained respecting the Strait now before us, how frequent were the delays, and how insurmountable the obstacles we had to encounter; and, though no account, however detailed, can convey an adequate idea of the anxiety with which each scrap of information was sought after and received, or the daily and hourly mortification attendant on each fresh delay, the foregoing narrative is, perhaps, sufficient to shew that it was not without considerable mental solicitude, as well as physical exertion, that we had effected even thus far our passage to the westward. In proportion to the labour and disappointments which the attainment of this object had cost us, was the reluctance I felt in admitting even a thought of its abandonment; and as long as the weather continued open, I always ventured to cherish a belief that some favourable alteration might yet occur. Now, however, that the frost was hourly at work in re-connecting, by numberless links, the "older" masses,

1822. Sept. whose partial separation had lately excited our hopes, it seemed scarcely reasonable any longer to entertain an expectation of such a change as could essentially promote our ultimate object. Had we, indeed, succeeded in getting fairly through the Strait, and then found no more than the *ordinary* obstacles of these seas to contend with, I could not have had a moment's hesitation in continuing to push on to the last hour of the navigable season; taking our chance, as usual, of then finding a place of security for our winter-quarters. But the prospect now before us offering no such encouragement, it appeared more prudent to regulate our proceedings according to existing circumstances, and rather to moderate our views for the present, than by an ill-timed perseverance to interfere with our hopes for the future.

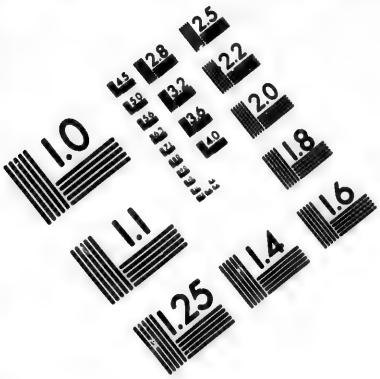
It would undoubtedly have been interesting at this period of the voyage, to have known whether the unfavourable state of the ice during the late summer was merely the result of an unusually bad season, or the effect of some more permanent and local cause, rendering the navigation of this passage equally impracticable in the general average of years. Without however at present entering into that question, which it would require the experience of several seasons to determine, and to which I shall have some future occasion to revert, it is now only necessary to remark that in whatsoever state the ice might here be found in the ensuing summer, there appeared no reason for supposing our object would be furthered by wintering in the middle of the Strait; because its eastern entrance being certainly the first to be cleared, it would be an easy matter to regain our present advanced position in a few hours after that clearance should take place. On the other hand, supposing the ice to remain unbroken till the same period next season, (and it was not easy to get over the impression that what had happened one year would in all probability happen the next,) our wintering in the Strait involved the certainty of being frozen up for eleven months,—a sickening prospect under any circumstances, but in the present instance probably fatal to our best hopes and expectations.

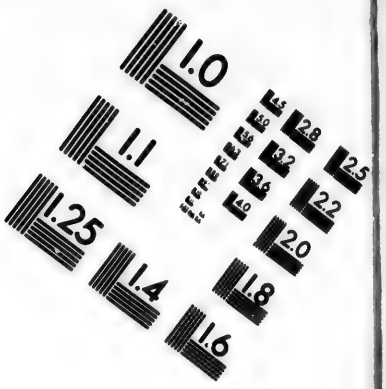
With the conviction of these unpleasant truths reluctantly forced upon my mind, I considered it my duty to assist my own judgment at this crisis by calling for the opinions of the senior officers of the Expedition. With this view therefore I addressed a letter to Captain Lyon and Lieutenants Hoppner and Nias respectively, directing their attention to the principal circumstances of our present situation, and requesting their advice as to the measures most proper to be pursued for the successful prosecution of our enterprise.

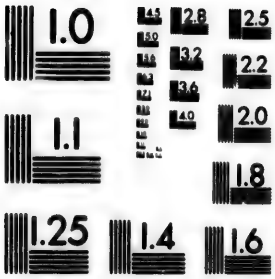
The officers agreeing with me in opinion as to the expediency of our not risking a detention in the Strait during the winter, I determined, on the grounds before detailed, no longer to postpone our departure, if indeed, as there was some reason to think, it had not already been delayed too long. I therefore directed a memorandum to be read on board each ship, acquainting the officers and men with my views as above stated, and also expressing my intention to employ whatever time might yet remain of the present season, in the examination of the coast of Cockburn Island to the northward and eastward. In the event of making little progress in that direction, I proposed looking out for some situation in the neighbourhood of Igloolik that might afford security to the ships during the winter, and by ensuring an early release in the spring, allow us at least the liberty of choosing to what part of the coast our efforts should then be directed. gladly availed myself of this opportunity to offer my best thanks so justly due to the officers and men under my command, for their zealous and unremitted exertions during the two seasons that had passed; and it was scarcely necessary to remind the ships' companies of the necessity of continuing to the last those praiseworthy efforts, on which the ultimate accomplishment of our enterprise might still depend. 1822. Sept. Thur. 19.

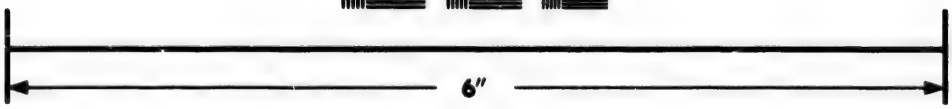
The young ice had now formed so thick about the Fury, that it became rather doubtful whether we should get her out without an increase of wind to assist in extricating her, or a decrease of cold. At ten A.M. however we began to attempt it, but by noon had not moved the ship more than half her own length. As soon as we had reached the outer point of the floe, in a bay of which we had been lying, we had no longer the means of applying a force from without and, if alone, should therefore have been helpless at least for a time. The Hecla however being fortunately unencumbered, in consequence of having lain in a less sheltered place, sent her boats with a hawser to the margin of the young ice; and ours being carried to meet it by men walking upon planks at considerable risk of going through, she at length succeeded in pulling us out; and getting into clear water or rather into less tough ice, at three P.M. we shaped a course to the eastward. At seven o'clock, it being too late to run through the narrows, we anchored for the night in ten fathoms, near the east end of Liddon Island, where we lay without disturbance.

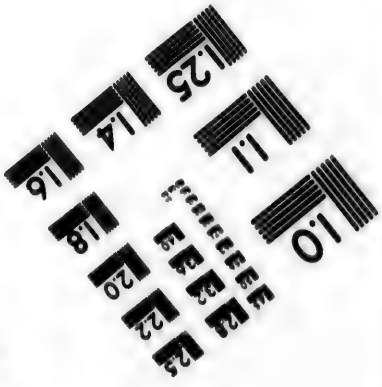
Although the thermometer remained at 11° most of the night, little or no young ice had formed about the ships by daylight on the following morning. This circumstance, which it may be practically useful to explain, arose from the newly-formed sheets immediately drifting away from the land, on which Tues. 20.











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1822. Sept.

account, though the freezing process is constantly going on, a weather shore is frequently the clearest, when no other part of the sea is free from young ice. The latter part of this fact became evident soon after our getting under way, the whole of the night's formation of ice having been drifted down and stopped at the narrows; producing so impenetrable a barrier that, at seven A.M., the Fury was altogether stopped by it, and the Hecla coming up astern, in half an hour afterwards. Boats were immediately got under the bows, and every other means resorted to that we could devise, to break the young ice ahead of the ships, but sometimes to no purpose for two hours together. The ice was just in that state in which there is no such thing as operating upon it; too thick to allow a ship to be forced through it, too tough for regular sawing, and yet dangerous for men to walk upon. To get a boat her own length through it would occupy a dozen men a quarter of an hour, and that by standing in the water the whole time, and after all without being able to make a channel for the ship. When a vessel is thus stopped, provided the obstacle does not exceed a certain strength, and the wind is favourable at the time, there is nothing so effectual in forcing her ahead as what is technically called "sallying," which consists in the men suddenly running from side to side of the deck, thus causing the ship to roll and relieve herself from the friction and adhesion of the young ice against her bends. It is astonishing indeed to see how immediately a progressive motion is sometimes thus imparted to a ship, when all other and more laborious means have failed in advancing her a single inch.

While thus employed during the forenoon, we began to perceive about half-past ten that the ships were driving back with a tide setting from the eastward, which gradually increased in strength, and occasioned us to lose one or two miles of ground while struggling to extricate the ships from the ice. At three P.M. we at length got clear, and in passing Cape Ossory at five found the tide slack, it being now low water by the shore. From this concluding observation on the tides in this part of the Strait of the Fury and Hecla, as well as from all our preceding remarks, and especially the more regular ones of Mr. Crozier already given, I believe there can be little doubt that the flood-tide here comes from the westward. That there is besides this, during a great part of the summer, a permanent current setting from the same direction is also sufficiently apparent; and the joint effects of these two causes appear to account satisfactorily for the various irregularities observed, as well in the set of the stream as in the rise and

fall of the water by the shore. The natural inference with respect to the current seemed at the time to be, that it is occasioned by the annual melting of the snows upon the shores of the Polar Sea, for which this Strait affords the only outlet leading to the southward, within perhaps some hundreds of miles; and this supposition appeared the more reasonable from the circumstance of the current having just now ceased, when the streams from the land were once more arrested by the frost of approaching winter. It must however be confessed, that this conjecture will not hold good with respect to the current at Winter Island, where it was generally found to be setting to the southward throughout the whole of the winter. 1822. Sept.

After clearing the narrows we ran down a few miles and then hove to for the night, which proved dark and squally, the wind having increased and veered more to the southward. The hours of darkness, in a confined and little-known navigation, are always anxious ones; but our situation was to-night rendered still more critical, by the compasses being affected somewhat in the same manner as described on the morning of the 26th of August, and in a situation from three to five miles to the southward of the same spot. What the amount of the change was, the darkness prevented our determining; but it could not have been less than six or seven points, as was ascertained about the time of our heaving to, by the bearing of the Hecla astern of us, without which guide we should have imputed it to an alteration in the wind. We kept however in deep water during the night, and at daylight on the 21st made all sail along Cockburn Island on which the wind now directly blew. No ice was here seen to oppose our progress except some broad streams of "pancake-ice;" but it being impossible to run down on a dead lee-shore to carry on the proposed examination, I made a tack to fetch Tern Island and anchored under its lee for the night in thirteen fathoms, at the distance of a mile from the shore. The island was now so covered with snow that it might easily be mistaken for a floe of heavy ice till closely approached. A number of sea-horses were seen here, and Captain Lyon struck some of them, but was prevented securing them by their taking to the young ice, through which the boats could not make their way. Sat. 21.

At break of day on the 22d we weighed and stood to the north-eastward, with the intention of proceeding in the further examination of the shores of Cockburn Island. The wind, however, freshened up so suddenly from the S.E.b.S., that it was impossible to make any progress; and at half-past eight Sun. 22.

1822. Sept. A.M., finding the weather still becoming worse, I determined to run back to Tern Island, where alone we knew of any shelter during the approaching bad weather. A fresh gale almost immediately coming on, with a considerable sea and very thick snow, it was for some time doubtful whether we should be able to find the little spot we were in search of. Discovering it at length under our lee appearing like a long white cloud upon the horizon, we bore up to run round the reefs by which it is encompassed, and which may be perceived at a considerable distance by the whiteness of the water. Every seaman will be aware of the difficulty of choosing an anchorage in a gale of wind, and upon a coast so little known as to render extreme caution necessary in approaching it. To these difficulties however must be added, in the present instance, the extreme smallness of the island, which afforded so little lee that, to use an expression of the seamen, it was like "anchoring under the point of a needle." On the other hand it was requisite for the leading ship to keep sufficient sail set to the last moment, to ensure gaining anchorage, which once lost would have placed us in a situation of extreme danger during the ensuing dark and tempestuous night. The consequence was that though the Fury's sails were clewed up and furled with the utmost alacrity, the strain proved too heavy for the anchor, which after bringing the ship nearly head to wind, began again to drag along the ground. The chain cable being then veered to seventy fathoms, she was at length brought up, being in five fathoms and a half and close to some grounded masses of ice lying upon the reefs; but we had every reason, notwithstanding this, to suppose that all was not right with the anchor. The Hecla having the Fury as a guide came to in a good birth a little outside of us.

Mon. 23. The gale now continued to increase, and a good deal of swell setting into our roadstead incommoded us less by the additional strain thus put upon the anchors, than by the numerous heavy masses of ice that it served to lift off the ground, and which driving past the ships occasioned them some heavy shocks during this inclement night. We rode the gale out however quite securely, and on the morning of the 23d had once more a moderate breeze, though with continued snow. Advantage was taken of this change to shift our births a little further out, in case of the wind coming upon the shore, when our conjectures respecting the Fury's anchor were disagreeably verified by its coming to the bows with only one fluke. Having now but a single serviceable anchor on deck, the launch was hoisted out and one received from the Hecla. The wind shifted to the westward soon after we had

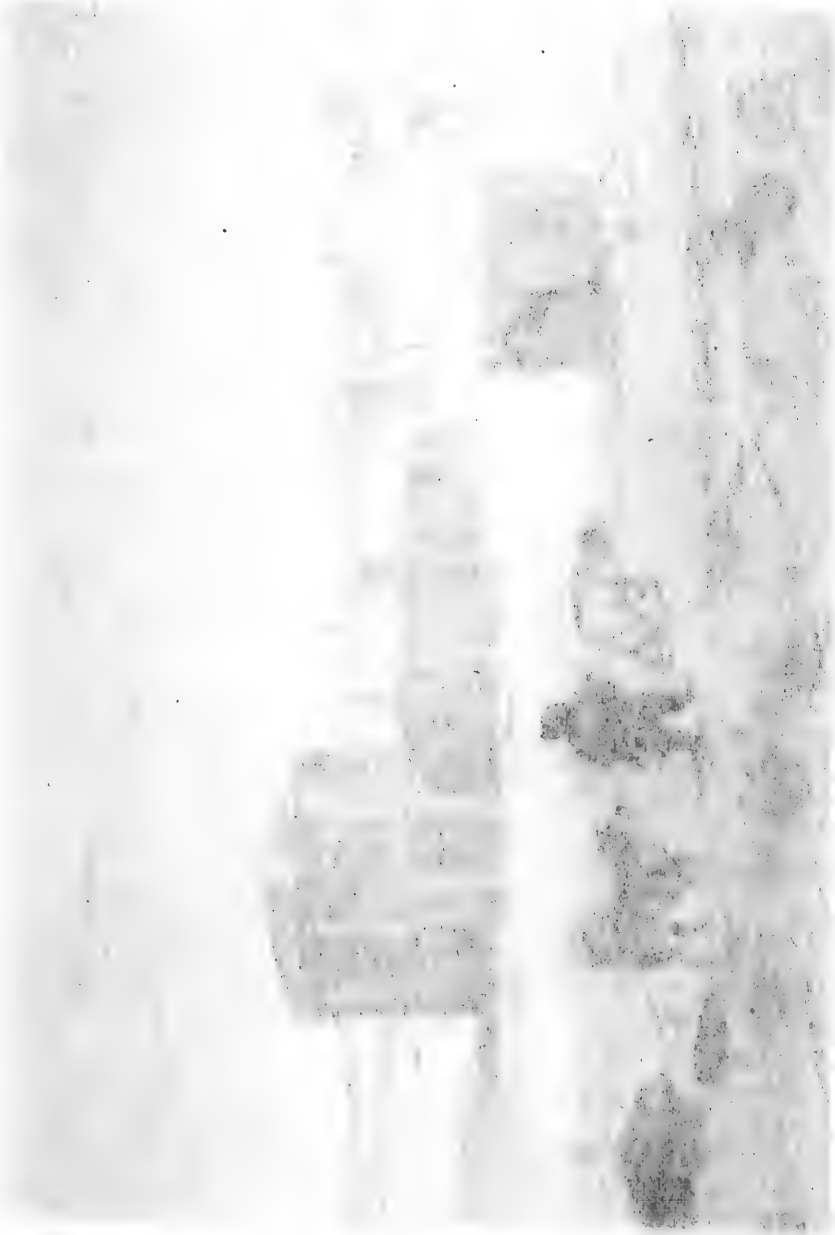
moved; and the island now affording us no shelter and the night being tolerably clear and fine, we weighed after dark, to avoid incurring further damage to our ground tackle, in which our losses had already been serious ones. 1822. Sept.

The time had now arrived when I could no longer consider it prudent to venture the ships at sea; for with ten hours of darkness in the four-and-twenty, a low temperature, and at times a considerable sea, it may readily be supposed that our situation was one of almost constant and unavoidable danger. Besides, on an unknown coast such as that I had purposed to examine, it occupies nearly one-half of a short day in looking out for anchorage for the ensuing night, and that perhaps after all affording no security to the ships, with much risk to the ground-tackle. These considerations appeared to me so important, and the probability so small of effecting any thing that could eventually promote our main object, that I determined on running the ships over to Igloolik, before the strong autumnal equinoctial gales usual in these regions should come on. Making sail therefore for the island, we discovered it at half-past ten A.M., though such was the difficulty of distinguishing this from Neerlo-nakto, or either from the main-land, on account of the snow that covered them that, had it not been for the Esquimaux huts, we should not easily have recognised the place. At noon we arrived off the point where the tents had first been pitched, and were immediately greeted by a number of the Esquimaux, who came running down to the beach, shouting and jumping with all their might. The soundings, though regularly decreasing, are shoal off this point; and the Fury in standing in shoaled the water to four fathoms and a half, at the distance of half a mile; but by keeping out a little, and proceeding with caution along the south shore of the island, we deepened to twenty, and being then led more off the land, found no bottom with the hand-leads. Making a tack towards the island we again came into regular soundings; and at half-past two P.M. anchored in ten fathoms on a muddy bottom at the distance of two-thirds of a mile from the shore. Tues. 24.

As soon as we had anchored I went on shore, accompanied by several of the officers, to pay the Esquimaux a visit, a crowd of them meeting us as usual on the beach and greeting us with every demonstration of joy. They seemed disappointed that we had not reached Akkoolee, for they always receive with eagerness any intelligence of their distant country-people. Many of them, and Toolemak among the number, frequently repeated the expressions, "*Owyak Na-o!*" (no summer,) "*Took-too Na-o!*" (no rein-deer,) which

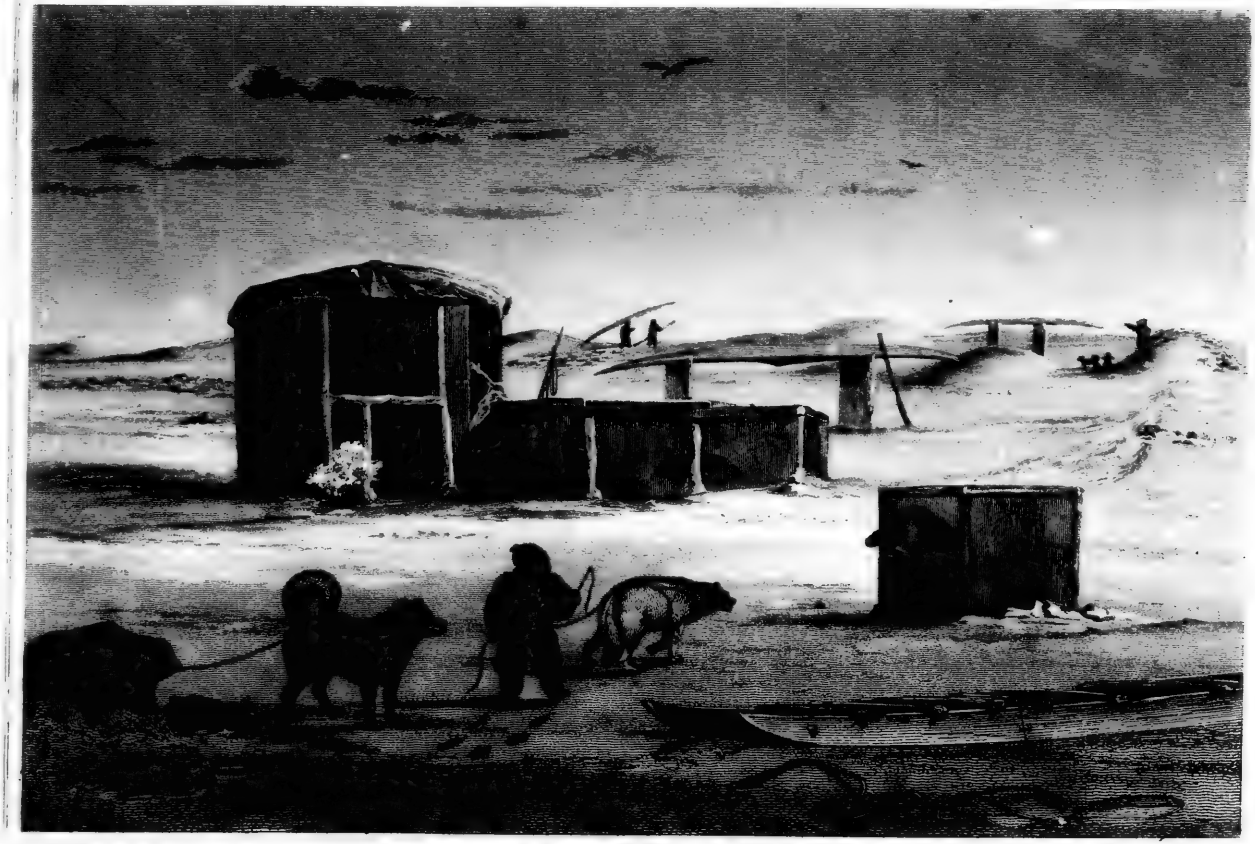
1822. Sept. we considered at the time as some confirmation of our own surmises respecting the badness of the past summer. When we told them we were come to winter among them, they expressed very great and doubtless very sincere delight, and even a few *coyennas* (thanks) escaped them on the first communication of this piece of intelligence.

We found these people already established in their winter residences, which consisted principally of the huts before described, but modified in various ways both as to form and materials. The roofs, which were wholly wanting in the summer, were now formed by skins stretched tight across from side to side. This, however, as we soon afterwards found, was only a preparation for the final winter covering of snow, and indeed many of the huts were subsequently lined in the same way within, the skins being attached to the sides and roof by slender threads of whalebone, disposed in large and regular stitches. Before the passages already described, others were now added from ten to fifteen feet in length, and from four to five feet high, neatly constructed of large flat slabs of ice cemented together by snow and water. Some huts also were entirely built of this material, of a rude circular or octangular form, and roofed with skins like the others. The light and transparent effect within these singular habitations gave one the idea of being in a house of ground-glass, and their newness made them look clean, comfortable, and wholesome. Not so the more substantial bone huts, which, from their extreme closeness and accumulated filth, emitted an almost insupportable stench, to which an abundant supply of raw and half-putrid walrus flesh in no small degree contributed. The passages to these are so low as to make it necessary to crawl on the hands and knees to enter them; and the floors of the apartments were in some so steep and slippery, that we could with difficulty pass and repass, without the risk of continually falling among the filth with which they were covered. These were the dirtiest because the most durable of any Esquimaux habitations we had yet seen, and it may be supposed they did not much improve during the winter. Some bitches with young were very carefully and conveniently lodged in small square kennels, made of four upright slabs of ice covered with a fifth, and having a small hole as a door in one of the sides. The canoes were also laid upon two slabs of this kind, like tall tomb-stones standing erect; and a quantity of spare slabs lying in different places gave the ground an appearance somewhat resembling that of a statuary's yard. Large stores of walrus' and seals' flesh, principally the former, were deposited under heaps of stones all about



[illegible] we [illegible] as [illegible] surmises respecting the [illegible] of the past summer. When [illegible] come to winter among them, they expressed very [illegible] very sincere delight, and even a few *cojemos* (thanks) [illegible] on the first communication of this piece of intelligence.

We found these people already established in their winter residences, which [illegible] of the huts before described, but modified in [illegible]. The roofs, which were wholly [illegible] stretched tight across [illegible] found, was only a preparation for the final winter [illegible] snow, and indeed many of the huts were subsequently lined in the same way [illegible] the skins being attached to the sides and roof by [illegible] threads of whalebone, disposed in large and regular stitches. Before the passages already described, others were now added from ten to fifteen feet in length, and from four to five [illegible] neatly constructed of large flat slabs of ice [illegible] together by [illegible] water. Some huts also were entirely [illegible] of a [illegible] or octangular form, and roofed with [illegible] others. The [illegible] transparent effect within [illegible] one the [illegible] ing in a house of [illegible] made them [illegible] [illegible] stantial bone hut [illegible] [illegible] [illegible] half [illegible] flesh [illegible] The passages to these are [illegible] make it necessary [illegible] to enter the [illegible] floors of the apartments were in some so steep and slippery, that [illegible] with difficulty pass and repass, without the risk of continually [illegible] the filth with which they were covered. These were the dirtiest [illegible] [illegible] durable of any Esquimaux habitations we had yet seen, [illegible] did not much improve during the winter. Some [illegible] young [illegible] in small [illegible] made of [illegible] with, and [illegible] hole as a door [illegible] were also [illegible] slabs of this kind, [illegible] and [illegible] spare slabs lying in [illegible] ground an appearance [illegible] resembling that of a [illegible] large stores of [illegible] flesh, [illegible] the [illegible] under heaps of [illegible]



[illegible] Captn Lyon, R.N.

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the beach and, as we afterwards found, in various other parts of the island, which shewed that they had made some provision for the winter though, with their enormous consumption of food, it proved a very inadequate one. 1822. Sept.

The breeze continuing fresh from the westward, with clear weather, the thermometer fell to 12° on the morning of the 25th. Being desirous of ascertaining, as soon as possible, in what situation it would be expedient to place the ships for the winter, several boats were despatched to sound along the shore; when I found that the only spot likely to afford shelter, or even any near approach to the land, was within a point called *Oōng-ălōoyăt*, at the entrance of a fine bay about two miles to the westward of our present anchorage. The young ice now covered the whole surface of the sea like floating honey, the breeze not allowing it to become solid; and, towards night, the wind shifting to the eastward, soon raised the temperature too high for any fresh formation of that kind. I determined, therefore, without loss of time, to take advantage of the opportunity afforded by this change, to run to the westward in a boat as far as the fixed ice would permit; and, if soon stopped by that obstacle, to cross upon it to the main-land, and endeavour to clear up the mystery respecting *Khemig*, which had cost us so many speculations and conjectures. Wed. 25.

Leaving the Fury at seven A.M. on the 26th, and being favoured by a fresh easterly breeze, we soon cleared the south-west point of Igloolik; and having passed the little island of *Oogliăghioo*, immediately perceived to the W.N.W. of us a group of islands, so exactly answering the description of Coxe's Group, both in character and situation, as to leave no doubt of our being exactly in Captain Lyon's former track. Being still favoured by the wind, and by the total absence of fixed ice, we reached the islands at eleven A.M., and after sailing a mile or two among them, came at once in sight of the two bluffs forming the passage pointed out by Toolemak and then supposed to be called *Khemig*. The land to the north called by the Esquimaux *Khiadlaghioo* we now found to be, as we had before conjectured, the southern shore of Richards' Bay; and its extreme point to the eastward I subsequently named, by Lieutenant Nias's request, Cape Matthew Smith, after Captain Matthew Smith, of the Royal Navy. The land on our left, or to the southward, proved an island, five miles and a quarter in length, of the same bold and rugged character as the rest of this numerous group, and by far the largest of them all. To prevent the necessity of reverting Thur. 26.

1822. Sept. to this subject I may at once add, that two or three months after this, on laying before Ewerat our own chart of the whole coast, in order to obtain the Esquimaux names, we discovered that the island just mentioned was called *Khemig*, by which name Ormond Island was *also* distinguished; the word expressing in the Esquimaux language any thing stopping up the mouth of a place or narrowing its entrance, and applied also more familiarly to the cork of a bottle or a plug of any kind. And thus were reconciled all the apparent inconsistencies respecting this hitherto mysterious and incomprehensible word, which had occasioned us so much perplexity.

After landing to dine upon one of the islands of which, from first to last, we counted nearly one hundred, we again made sail and, running between the bluffs, which are half a mile apart, continued our course in rather a wider channel than before though still among islands. At half-past three we were stopped by a floe of fixed ice stretching entirely across the passage, and the weather now becoming thick with small snow, we landed and pitched the tent for the night; not, however, till I had recognised on the left hand or main-land the remarkable cliff described in my former journey, by which circumstance we were assured of being near the little inlet then discovered.

Frid. 27. At daylight on the 27th, we crossed to a small island at the margin of the ice; and leaving the boat there in charge of the coxswain and two of the crew, Mr. Ross and myself, accompanied by the other two, set out across the ice at seven A.M. to gain the main-land, with the intention of determining the extent of the inlet by walking up its southern bank. After an hour's good travelling we landed at eight A.M., and had scarcely done so when we found ourselves at the very entrance, being exactly opposite the place from which Mr. Richards and myself had obtained the first view of the inlet. The patch of ice on which we had been walking, and which was about three miles long, proved the only remains of last year's formation; so forcibly had nature struggled to get rid of this before the commencement of a fresh winter.

We found this land similar to Igloolik in its geological character, being composed of limestone in schistose fragments; but in some parts, even for a mile or two together, covered with herbage the most extensive and luxuriant I have ever seen near this latitude. Here and there occurred a little pile as it were of the fragments of limestone, lying horizontally as if arranged by art, and projecting a few feet above the surface of the ground. The sides of

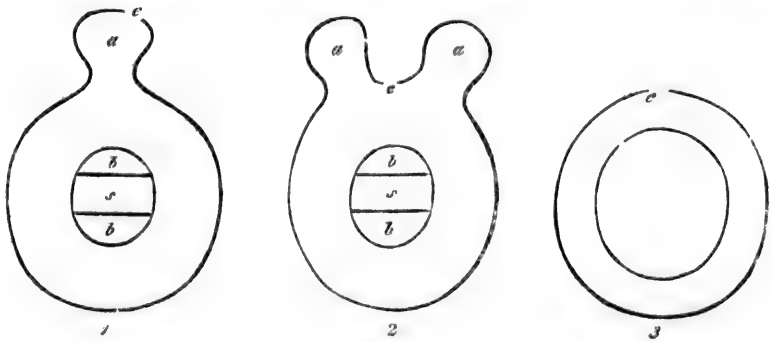
several small rising banks presented a similar disposition, but I did not notice any boulders of harder substances resting upon any of them, nor indeed could we find a single specimen of any other mineral than limestone. Walking quickly to the westward along this shore, which afforded excellent travelling, we soon perceived that our business was almost at an end, the inlet terminating a very short distance beyond where I had first traced it, the apparent turn to the northward being only that of a shallow bay. To make quite sure, however, I sent Mr. Ross on with one of the men, to walk to the head of it, while I with the other turned off to examine the cliff-land to the southward. We found the slope of this to be composed as was conjectured, of the *debris* falling from the perpendicular ridge above, the whole being limestone without a single exception that we could discover. The slope making an angle of about 60° with a horizontal line, and being in some parts covered with snow, we with difficulty ascended it; but found the upper ridge wholly impracticable on account of the snow overhanging the summit. The height of the perpendicular rock, which lies in broad horizontal strata, is from twenty to thirty feet, the whole cliff being about one hundred and eighty above the level of the other ground. At the bottom of the slope lay numerous heavy square blocks of the limestone; and upon these, as well as on some of the smaller fragments, I observed impressions of fossil-shells. 1822. Sept.

Having finished my examination of this remarkable piece of land, which extends between four and five miles in an east and west direction, I went to meet Mr. Ross; who reported that, having walked three or four miles to the westward, he found the inlet terminate about two miles further in that direction. Having thus completed our object, we set out on our return, and reached the boat at three P.M. after a walk of twenty miles. The weather fortunately remaining extremely mild, no young ice was formed to obstruct our way, and we arrived on board at noon the following day, after an examination peculiarly satisfactory, inasmuch as it proved the non-existence of *any* water communication with the Polar Sea, however small and unfit for the navigation of ships, to the southward of the Strait of the Fury and Hecla. The creek whose extent to the westward we had lately determined, I named after Captain John Quilliam of the Royal Navy; and the Inlet, of which this is a continuation, was distinguished by the name of Hooper Inlet, after my friend Mr. Hooper, purser of the Fury. Sat. 28.

I found from Captain Lyon on my return that, in consequence of some ice

1822. Sept. coming in near the ships, (most probably that which had lately been dislodged from Richards' Bay,) he had shifted them round the point into the births where it was my intention to place them during the winter; where they now lay in from eleven to fourteen fathoms at the distance of three cables' lengths from the shore.

The point of *Oonga-looyat* is rendered conspicuous at some distance by fifteen walls of loose stones, disposed in a tolerably regular oval form, about five feet high, from forty-one to twenty-seven feet in length, and from thirty-three to eighteen in breadth, the longest diameter being from north to south. The greater part of these had at their south ends a kind of recess, and some of them two, as in the annexed figures 1 and 2, the entrance being through a gap in the wall, at *e*. A smaller oval



North.

of stones was placed in the middle of the principal one, and had been used simply for confining the tent-skins of the Esquimaux, who had left behind them the usual traces of recent habitation, such as oil, bones and putrid flesh in abundance. The small central space at *s* was sunk about a foot below the level of the ground, and the parts marked *b* had served as beds, being raised with flat stones about a foot, and covered with shingle. The use of the principal or outer circles, which differed from any thing we had observed elsewhere, was not at first very obvious to us, but Ewerat and Togolat one day explained that they were only used at the killing of a whale, on which rare and grand occasion they indulge, it seems, in more than ordinary festivity and merriment. As far as we could understand their description of this fête, it appears that the whole animal or a principal part

of it is dragged into the enclosure, where some of the men are employed in cutting it up and throwing the pieces over the wall to the rest, who stand ready to receive them outside; while the women range themselves in a circle around the whale within, and continue singing during the operation. One of these walls, which was built with more neatness and regularity than the others, had the inner oval larger in proportion than usual, and consisting of heavy stones evidently laid as seats. Each of these structures, (which were placed at the distance of thirty or forty yards apart,) was the distinct property of a particular individual; and had probably, in its turn, been the seat of feasting and merriment either to the present owner, or those from whom he had inherited it. The inner circles, however, appeared to be made use of as common summer habitations, either from the convenience and superior shelter they afford, or possibly from some superstitious reverence entertained for this particular site. On a rising ground above, were several large stones set upright in a line three or four hundred yards in length; with what intention we did not learn. Most of these people had now returned to their winter station at the south-east end of the island. A sick man with his family took up his quarters in our neighbourhood, for the benefit of medical assistance; and building a snow-hut near the ships, continued Mr. Skeoch's patient for a short time, and then joined the rest of the natives at the village. 1822. Sept.

The snow continued to fall during most of the 29th, on the evening of which day the weather cleared up and the thermometer fell to 15° at midnight. Some young ice now formed near us, but for this and the two following days, when the temperature oscillated between 16° and 19°, it was only of the "pancake" kind, being the softest of any that assumes an appearance of continuity. From the 2d to the 4th of October, however, when the thermometer fell to 10° during the nights, the ice formed into a more solid sheet; but being kept too constantly in motion by the wind to attach itself to the land, still drove rapidly past the ships, which easily cut for themselves a passage, as it were, through it, to the discomfiture only of the buoys on the anchors, which were frequently pressed under the ice, but would occasionally, by their buoyancy, force themselves up through some thin part. The rapidity with which ice will form upon the surface of the sea, even at no very low temperature of the atmosphere, was rendered particularly apparent by what occurred for several days about this period, when a continuous sheet, from three quarters of an inch to an inch and Sun. 29. October. Frid. 4.

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Sea, during the Month of *September*, 1822.

Day	Place.	Fahrenheit's Thermometer. Maximum.	Minimum.	Mean.	Mean Temperature of Sea Water.	Barometer. Maximum.	Minimum.	Mean.	Prevailing Winds. Direction.	Velocity.	Prevailing Weather.
		°	°	°	°	inches	inches	inches			
1	In the Strait of the Fury and Hecla.	33	27	30.00	28.04	29.91	29.86	29.898	NW	fresh	cloudy
2		34	25	31.83	28.42	29.82	29.60	29.722	NW	strong & squally	cloudy
3		36	24	27.58	27.08	29.82	29.78	29.810	West	modt.	cloudy
4		30	25	27.58	27.17	29.94	29.83	29.883	WbN	modt.	cloudy
5		28	26	27.17	27.21	30.00	29.95	29.986	NW	modt.	cloudy
6		28	19	24.71	27.25	29.98	29.84	29.925	West	modt.	cloudy—snow at times
7		28	19	22.92	27.00	29.80	29.72	29.765	WNW	modt.	clear
8		30	20	25.58	28.10	29.82	29.70	29.773	ESE	light	fine
9		31	19	25.08	27.88	29.85	29.83	29.840	ENE	light	fine
10		33	19	25.37	28.33	29.87	29.75	29.820	NWbW	light	fine
11		31	20	26.33	28.00	29.70	29.60	29.650	SE	lt. & calm at times	fine
12		37	23	30.20	29.83	29.58	29.51	29.547	ESE	light	hazy
13		34	27	30.42	29.58	29.51	29.50	29.502	SE	fresh	hazy
14		33	24	27.83	28.46	29.50	29.48	29.495	ENE	modt.	hazy and small snow
15		28	21½	24.25	28.05	29.53	29.45	29.457	NNW	light	hazy—snow at times
16		30½	22	25.63	28.08	29.60	29.52	29.562	NW	modt.	cloudy
17		20	12	17.33	27.12	29.73	29.60	29.642	WNW	fresh	cloudy—snow at times
18		16	11	13.21	27.50	29.78	29.76	29.770	West	light	snow at times
19		18	11	14.29	27.22	29.83	29.70	29.765	NW	light	cloudy
20	Off the Island of Igloolik.	20	14	18.00	27.61	29.88	29.83	29.850	NW	light	cloudy
21		29	20	25.88	28.21	30.02	29.85	29.930	SEbE	modt.	cloudy
22		29	26	27.66	28.18	30.02	29.72	29.863	SSE	strong	hazy—snow at times
23		28	26	26.92	28.17	29.72	29.63	29.670	SSE	modt.	hazy—snow at times
24		28	14	22.25	27.75	29.86	29.72	29.818	NW	modt.	cloudy
25		25	12	18.90	27.45	29.81	29.61	29.730	WNW	modt.	cloudy
26		29	27	28.42	28.25	29.64	29.62	29.627	ENE	modt.	hazy
27		29	27	27.96	28.70	29.62	29.60	29.613	ENE	modt.	hazy and snow
28		27	19	24.75	28.08	29.73	29.60	29.655	Northerly	modt.	hazy and snow
29		19	15	17.29	27.79	29.72	29.63	29.698	NW	modt.	cloudy—snow at times
30		19	16	17.75	27.95	29.60	29.57	29.590	NW	modt.	cloudy
		+37	+11	+21.45	27.97	30.02	29.45	29.730			

a half in thickness, incessantly drove past the ships. The distance of the land a-head, under which this formation must have commenced, and which appeared as though it were itself furnishing an inexhaustible store, was not more than two miles and a quarter, and the rate at which the ice came past us varied from a mile to a mile and a half an hour; so that the sheet must have been formed of this thickness in the course of two hours and a half at farthest. 1822. October.

This continued without intermission for two days, the only annoyance it occasioned being that of preventing our communication with the shore, where some parties had previously been occupied in cutting turf for the sides of the house intended to be built as an observatory. On the night of the 4th, however, it began to shew its strength by causing the Hecla to drive directly in our hawse, but she fortunately brought up just in time to secure both ships from damage. It therefore became absolutely necessary to move farther into the bay; that we might have to encounter "younger" ice, and thus avoid the risk, which now threatened us, of being driven out to sea for the winter.

On the 5th, therefore, we commenced this attempt, it being my intention whenever the ice became attached to the land, to cut our way back to the present station. By dint of great exertion in all the boats, our people succeeded in rowing out a stream anchor, and laying it down a-head of the Hecla, which was the weathermost ship; and by this she was enabled before dark to warp about one-third of a mile farther into the bay. On the following day she advanced a little farther by the same means, and then by hawsers run down from her the Fury was moved up to the same station. The ice had now become much stronger, and the wind falling in the evening, it was broken off near us and arrested in its drift, partly perhaps by the ships themselves which now lay at the edge of the newly-formed floe. Near the time of sunset this afternoon a splendid parhelion appeared on each side at the distance of 22° 17′ from the sun, displaying very rich prismatic colours and quite dazzling the eye to look steadfastly at them. A paraselena was also seen, at night, on each side the moon, their angular distance from that object measuring 23°. The thermometer fell to *zero* at midnight and the temperature still farther decreased to −2° on the morning of the 7th, which kept every thing quiet during the day, and gave us hopes that no disruption would again disturb us. The fall of the thermometer to *zero* occasioned as usual a considerable condensation of vapour into water,

Sat. 5.

Sun. 6.

Mon. 7.

1822. October. upon the beams of the lower deck; but directions being given for commencing our winter system of ventilation, dryness was restored in less than three hours after the lighting of the main-hatchway stove.

Tues. 8. The wind changing to the south-east on the 8th, and soon increasing to a fresh breeze which shortly raised the thermometer to +25° the ice was once more set in motion, breaking in all directions, and one sheet doubling under another wherever a separation had been effected. The wind increasing and with it the pressure also, the ships were turned round with their sterns towards the north-west shore of the bay, upon which, but for the anchors, we must have been immediately driven. Even these however could not long sustain the ships against the ice, which from being at first only an inch or two in thickness became in a few hours more than as many feet, by the long-continued process of one sheet overlaying the other. The Fury soon drove past the Hecla, the latter happening to rest against a stouter part of the ice, which for some time held her to windward. The breeze still increasing, the lower yards and top-gallant-masts were struck, and the rudders kept ready for unshipping, if it should be found necessary: we lay however tolerably quiet, driving but a little in the course of the night. Notwithstanding the constant motion and dangerous state of the ice during the day, several of the Esquimaux walked fearlessly, though cautiously, off to the ships. Their method is to go in a line a-head, or by single files, the leader and perhaps one or two of the others carrying a spear, with which they constantly try the ice before them, keeping their legs as far asunder as possible so as to bear upon a large surface, and carefully avoiding the parts that look black. In this manner, during this and the succeeding day, when I would not on any consideration have ventured a man of ours in a similar situation, did these people continue to visit us, some women and even children being among the number.

Wed. 9. On the morning of the 9th, the wind began to freshen to a gale, by which the ice was again set in motion, and the squeezing and doubling re-commenced with fresh violence. In the afternoon the Fury drove rapidly to the westward but, occasionally holding on, allowed a great deal of ice to go past her and interpose itself between the ship and the land. As soon as this had taken place, and the ships were thus secured from the danger of driving on the beach, we should have been glad to purchase our anchors, which then became the objects of our greatest solicitude. The Fury was so closely and constantly hemmed in that, with her, this was

impracticable; but an opportunity unexpectedly offering for the Hecla to do so, Captain Lyon instantly took advantage of it; when, to our inexpressible mortification, her anchor was found to have lost both the flukes. There was scarcely any loss which we could not better have afforded; and I had every reason to apprehend that the Fury would incur a similar one; for the gale still increasing, her anchor was dragged over the ground nearly a mile without stopping, and at times continued to be so during the night, which proved a most tempestuous and inclement one. 1822. October.

In the course of the evening, while the ice was driving past the Fury and fresh separations were almost every moment taking place in it, a little Esquimaux boy, named *Agloōka*, about ten years of age, a son of our patient at the point, found his way along-side, and was very quietly stepping from one piece of ice to another in order to keep his ground abreast our gangway. Observing him in this situation, we threw him the bight of a rope into which he put himself, and was hauled on board. With this indulgence he was pleased, not from the idea of having escaped any danger, for he had certainly never felt apprehension, but because he might see the ship and pick up something from the Kabloonas.

Towards daylight on the 10th, the ice ceased moving, a great quantity being now packed between the ships and the land. The Hecla had been driven to the westward of the Fury, but both were secure from going on shore, and our anchor was now once more the sole cause of apprehension. On its moderating and clearing up in the course of the forenoon, we found that we had drifted more than a mile and a half from the point of Oongalooyat, the station originally selected for the winter-quarters of the ships, being now nearer to the western point of the bay. We could, however, do nothing but wait in patience to see if any further change would take place in the state of the ice and, whenever it appeared to be permanently fixed, commence the operation, which would now be no easy one, of cutting back to the point. In the mean time the ice not being likely to move without some alteration in the wind, we took the opportunity afforded by the Esquimaux sledges, of which several came down to the ships, to obtain some water from the shore, our stock being nearly expended and the snow not yet sufficiently deep for collecting it to thaw. Mr. Crawford and one of our men, therefore, accompanied the Esquimaux with a sledge loaded with small casks, which they soon filled with water, though at the expense of falling Thur. 10.

1822. October. through the ice more than once, in consequence of its irregular and deceitful surface.

Frid. 11. On the 11th, the wind backed a little to the north-east, and the ice remained quiet; but the small snow that almost constantly fell keeping the thermometer nearly up to the freezing point, we felt assured that a westerly breeze would again set it in motion, and subject us to the risk of losing more anchors, or of being driven out to winter at sea. The Esquimaux, finding their sledges might be turned to some account in our service, brought six or seven of them down to us on the 12th, when each ship employed two in procuring water. Being unwilling also to subject our own people to the risk of falling in, to which they were much more liable than the natives, we did not hesitate to intrust the latter with the sole charge of our casks and tools for breaking the ice in the ponds. They performed all that we desired with great faithfulness and punctuality, bringing several turns of water in the course of the day, and receiving some small though useful reward for their pains.

Sun. 13. The wind remaining easterly during the greater part of the 13th, the ice gave us no disturbance; till a very moderate breeze springing up at nine P.M. from the opposite quarter at once set the whole in motion near the ships, and we soon began to drive with it to the eastward. The Hecla's anchor was immediately and of necessity let go; in less than an hour afterwards however the wind very opportunely backed to the southward, and no further alteration took place than the opening of a few small "holes" of water. This motion of the ice was so far favourable to us that, on the following day, we had an opportunity of purchasing our anchor on board the Fury, though not without heaving it by main force from under a floe. This labour however was amply repaid by our finding it perfectly uninjured, though polished quite bright on the lower side by dragging along the ground. It is perhaps proper for me here to notice, that the Fury had on this occasion a hempen cable bent, and the Hecla an iron one, and that while the anchor of the former was dragged a full mile and a half without any injury, that of the Hecla was broken in driving about one-tenth of the same distance. I may add moreover, that our former losses in anchors had also occurred with iron cables, which were preferred for general use on this service, to obviate the danger of their being damaged either upon foul ground or by the chafing of ice. From the circumstances just noticed, however, it is by no means my

Mon. 14.

intention hastily to infer that our losses in this way were to be attributed to the unyielding nature, or any other supposed bad quality of the chain-cables, (though this was the opinion expressed by our most experienced seamen at the time,) for a few insulated facts are of themselves of very little importance. But it is only by the collection of such facts under the various circumstances of trial which may occur to seamen, that the comparative merits of the two kinds of cables can ultimately be determined. 1822. October.

The wind was easterly with a mild atmosphere till the night of the 15th, when the thermometer began to fall immediately on the springing up of a north-west breeze. Some remarkable alterations took place however this evening, according to the clearness of the atmosphere or the contrary. Between four and five o'clock the weather becoming clear overhead, the temperature fell to 12½°; at thirty minutes after five a partial haze came on, when the thermometer immediately rose to 15½°; and this soon after disappearing, the thermometer again fell to 13°, the wind continuing at N.W. the whole time. The breeze gradually increased in the course of the night, and on the following day blew a gale for some hours, with considerable snow-drift. As soon as it moderated we felt assured that the ice was now permanently fixed for the winter, and arrangements were therefore made for commencing our sawing operations the next morning. Such however was the laborious nature of this task, in consequence of the repeated doubling and squeezing of the ice, that after nine hours' hard work for both crews on the 17th, we could only succeed in getting in five and twenty fathoms of the Hecla's chain-cable before dark. It is scarcely possible indeed to describe the teasing nature of ice in this state, and the impossibility of cutting a passage through it in any reasonable time. So many strata had overlaid each other that the whole thickness in some places exceeded seven feet, which in others was increased still further by masses squeezed up and lying over-end. Ice even of this thickness, if it were only solid, would afford by its continuity some means of pulling it out; but in the present instance, after the saws had detached it, each separate layer was to be fished out by hooks and ropes, and as soon as one was removed another rose to the surface, leaving after all so much "sludge" or small powdered ice, as immediately to produce a fresh formation on the surface. On the 18th however the Hecla's anchor was got to the bows, and happily without injury to it; our next object was to get that ship close to the Fury, and then to commence a canal for both to warp in to the eastward. Tues. 15. Wed. 16. Thur. 17. Frid. 18.

1822. October. It happened that immediately beyond the Fury in that direction, there was a level undisturbed floe of some extent, which it would be comparatively easy to saw and sink; while the whole of the ice between the two ships was of the impracticable nature I have endeavoured to describe above. As it was indispensible for Mr. Fisher's observations and experiments that the Fury should be near the shore, I determined on this account as well as another that suggested itself about this time, and of which I shall speak in another place, not to incur the risk of *both* ships wintering at a distance from the land, by persevering too long in our attempts upon the Hecla, especially as the frost was now hourly increasing the difficulty we should have in moving the Fury into a convenient birth. The result of two whole days' wet and
Sun. 20. fatiguing labour on the 19th and 20th, being only to advance the Hecla about two-thirds of her own length each day, I directed that object to be abandoned without further delay, and the canal to be commenced ahead of the Fury.

Mon. 21. On the 21st a large basin was cut in a level piece of ice for the reception of a quantity of squeezed-up masses that lay between us and the regular floe, and which it was much easier to float away into any space that would be found for them, than to haul out of the water by piece-meal. This being accomplished, the work went on more quickly; but it was not till the after-
Wed. 30. noon of the 30th that the whole was completed, and the Fury placed in the best birth for the winter that circumstances would permit. This was however by no means so far out towards Oongalooyat as was originally intended; but the ice had in this neighbourhood been thrown up into such high and numerous hummocks, that to get the ship any further that way was entirely beyond our means; and we were therefore obliged to rest contented with the facilities our present situation afforded for Mr. Fisher's observations during the winter. An early release in the spring could here be scarcely expected, nor indeed did the nature of the ice about us independently of situation allow us to hope for it; but both these unfavourable circumstances had been brought about by a contingency which no human power or judgment could have obviated, and at which therefore it would have been unreasonable as well as useless to repine. We lay here in rather less than five fathoms', on a muddy bottom at the distance of one cable's length from the eastern shore of the bay.

The whole length of the canal was four thousand three hundred and forty-three feet; the thickness of the ice in the level and regular parts being from

twelve to fourteen inches, but in many places, where a separation had occurred, amounting to several feet. I cannot sufficiently do justice to the cheerful alacrity with which the men continued this laborious work during thirteen days, the thermometer being frequently at *zero*, and once as low as — 9° in that interval. It was satisfactory, moreover, to find that, in the performance of this, not a single addition had been made to the sick-list of either ship, except by the accident of one man's falling into the canal, and who returned to his duty a day or two afterwards. 1822. October.

While our people were thus employed, the Esquimaux had continued to make daily visits to the ships, driving down on sledges with their wives and children, and thronging on board in great numbers, as well to gratify their curiosity, of which they do not in general possess much, as to pick up whatever trifles we could afford to bestow upon them. These people were at all times ready to assist in any work that was going on, pulling on the ropes, heaving at the windlass, and sawing the ice, sometimes for an hour together. They always accompanied their exertions by imitating the sailors in their peculiar manner of "singing out" when hauling, thus at least affording the latter constant amusement, if not any very material assistance, during their labour. Among the numerous young people at Igloolik, there were some whose activity, on this and other occasions, particularly struck us. Of these I shall at present only mention two;—*Nōogloo*, an adopted son of Toolemak, and *Kŏngŏlĕk*, a brother of "John Bull." These two young men, who were from eighteen to twenty years of age, and stood five feet seven inches in height, displayed peculiar *tact* in acquiring our method of heaving at the windlass, an exercise at which *Kongolek* became expert after an hour or two's practice. The countenances of both were handsome and prepossessing, and their limbs well-formed and muscular; qualities which, combined with their activity and manliness, rendered them, (to speak like a naturalist,) perhaps as fine specimens of the human race as almost any country can produce. Thur. 31.

Some of our Winter Island friends had now arrived also, being the party who left us there towards the end of the preceding May, and whom we had afterwards overtaken on their journey to the northward. They were certainly all very glad to see us again and, throwing off the Esquimaux for a time, shook us heartily by the hand with every demonstration of sincere delight. Ewerat in his quiet sensible way, which was always respectable, gave us a circumstantial account of every event of his journey. On his

1822. October. arrival at *Owlitteeweek*, near which island we overtook him, he had buried the greater part of his baggage under heaps of stones, the ice no longer being fit for dragging the sledge upon. Here also he was happily eased of a still greater burthen by the death of his idiot boy, who thus escaped the miseries to which a longer life must, among these people, have inevitably exposed him. As for that noisy little fellow "John Bull," (*Kooillitiuk*,) he employed almost the whole of his first visit in asking every one, by name, "How d' ye do, Mr. so and so?" a question which had obtained him great credit among our people at Winter Island. Being a very important little personage, he also took great pride in pointing out various contrivances on board the ships, and explaining to the other Esquimaux their different uses, to which the latter did not fail to listen with all the attention due to so knowing an oracle.

We had for several days past seen no birds near the ships except one or two ravens; but those who had visited the huts had met with a covey or two of grouse in that neighbourhood, of which a few were killed by the Esquimaux with arrows. Mr. Edwards found, on examination, that these birds, and also one or two obtained in the summer on the south shore of the Strait, were not of the same species as those we had procured farther to the southward, the latter being the *tetrao rupestris*, and these the *tetrao albus*, (Pennant's Arct. Zool.) or the willow-partridge of Hearne. Two wolves had lately paid us some nocturnal visits, and the Esquimaux had killed several bears in the neighbourhood of the open water.

Having now brought up the account of our proceedings to the time of the ships being once more established in their winter-quarters, it may not be improper to take a brief review of the result of our late efforts, and then to close this part of the narrative by stating the determination which I now formed with respect to the future movements of the Expedition.

Flattering as our prospects appeared at the commencement of the past summer, our efforts had certainly not been attended with a proportionate degree of success; and little satisfaction remained to us at the close of the season, but the consciousness of having left no means within our reach untried, that could in any way promote our object. It required indeed but a single glance at the chart to perceive, that whatever the last summer's navigation had added to our geographical knowledge of the eastern coast of America, and its adjacent lands, very little had in reality been effected in furtherance of the North-West Passage. Even the actual discovery of the desired outlet

1822. October.

into the Polar Sea, had been of no practical benefit in the prosecution of our enterprise; for we had only discovered this channel to find it impassable, and to see the barriers of nature impenetrably closed against us, to the utmost limit of the navigable season.

Without reverting, however, to the past, or being at the pains to re-consider what we had or had not been able to effect, it was sufficient only to know our present geographical position to be aware, that the remaining resources of the Expedition were no longer adequate to the accomplishment of our principal object. Not to know this would have implied ignorance of the real nature of the attempt, and therefore not to admit it would have been little better than absurdity. Instead of disguising the difficulties where any existed, it seemed more prudent to search out and endeavour to obviate them; and after fairly considering every circumstance of our situation, to decide on the adoption of such measures as, with our present resources, appeared still to hold out some reasonable hope of ultimate and complete success.

Viewing the matter in this light, it appeared to resolve itself into the single question, by what means the resources of the Expedition could possibly be extended beyond the period to which they were at present calculated to last, namely, the close of the year 1824. Only one expedient suggested itself by which that object could be attained; and this I determined to adopt should no unforeseen occurrence arise to prevent it.—It was to send the Hecla to England in the following season, taking from her a twelvemonths' provisions and fuel to complete the Fury's resources to the end of the year 1825, and then continuing our efforts in that ship singly as long as a reasonable hope remained of our ultimate success. One or two collateral advantages occurred to me as likely to be derived from this plan; the first of which was the opportunity thus afforded of transmitting to the Lords Commissioners of the Admiralty a full account of our past proceedings and present situation and intentions, whereby perhaps much needless anxiety on our account might be prevented. It would also, as I hoped, allow their Lordships the option of making any alteration which they might now deem requisite in the arrangements pointed out in my Instructions, respecting the ship to be sent to meet us near Behring's Strait, for which the orders might not perhaps leave England before the arrival of the Hecla there, in the autumn of 1823. These were, however, minor and less important considerations; my principal object and determination being to persevere, to the utmost extent of our resources, in the prosecution of the enterprise with which I had the honour to

1822. October. be charged. Having suggested this expedient to Captain Lyon, I had much satisfaction in finding his opinion entirely coincide with my own; and without at present mentioning it to the other individuals belonging to the Expedition, we continued to consult together from time to time during the winter, concerning the arrangements it would be requisite to make for commencing the execution of our plan in the course of the following spring.

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Igloolik, during the Month of *October*, 1822.

Day	Fahrenheit's Thermometer. Maximum.	Minimum.	Mean.	Mean Temperature of Lower Deck.	Barometer. Maximum.	Minimum.	Mean.	Prevailing Winds. Direction.	Velocity	Prevailing Weather.
	°	°	°	°	inches	inches	inches			
1	+19	+16	+17.58		29.57	29.52	29.543	NW	fresh	cloudy
2	16	10	13.83		29.70	29.50	29.615	NW	fresh	fine
3	18	10	14.67		29.70	29.60	29.666	NE	light	cloudy—snow at times
4	15	10	12.42		29.59	29.52	29.545	NW esterly	light	cloudy
5	13	10	10.92		29.80	29.65	29.732	NW	fresh	cloudy
6	12	0	7 67		29.93	29.80	29.888	NW	fresh	clear
7	16	− 2	7.42		30.04	29.98	30.012	NNW by W to SE	light	clear
8	25	+18	22.12	53.0	29.96	29.80	29.897	SE	modt.	cloudy and snow
9	21	17	19.83	65.0	29.78	29.39	29.577	East	fresh	cloudy
10	28	21	24.17	67.0	29.26	29.19	29.225	ESE	am. fr. pm. lt.	snow cloudy
11	25	21	23.33	61.7	29.25	29.20	29.222	NE	modt.	hazy and snow
12	23	19	21.08	62.2	29 26	29.10	29.212	NE	modt.	hazy and snow
13	29	17½	23.64	64.0	29 07	28.68	28.855	NEbyN	light	cloudy and snow
14	19½	11	16.79	62.2	29.76	29.18	29.448	SSE	modt.	hazy
15	22	11½	17.33	62.2	29.84	29.67	29.777	ESE	modt.	cloudy
16	25	10½	17.38	62.7	29.63	29.51	29.553	AM. NW PM. SE	modt.	cloudy, snow at times
17	17	4	12.25	62.2	30.06	29.66	29.915	SE	modt.	cloudy
18	13	3	8.33	61.7	30.22	30.13	30.170	NE	light	fine and clear
19	21	4	14.25	62.2	30.15	30.07	30.115	ENE	modt.	cloudy, snow at times
20	20	4	8.83	62.0	30.28	30.16	30.207	North	light and variable	fine and clear
21	10	0	4.67	60.2	30.30	30.28	30.290	NNW	light	fine
22	2	− 5	−1.71	61.0	30.26	30.06	30.172	NW	modt.	fine and clear
23	− 1	9	5.54	58.0	30.02	29.98	30.002	NNW	modt.	fine and clear
24	+13	+ 2	+8.33	55.0	30.11	30.00	30.047	ENE	light	hazy and snow
25	11	4	7.25	59.7	30.31	30.11	30.223	North	light	cloudy
26	8	5	5.88	61.2	30.49	30.33	30.402	East round by South to NW.	light	hazy, snow at times
27	11	5	9.67	61.0	30.40	30.26	30.310	South	modt.	hazy, snow at times
28	15	10	12.37	61.0	30.20	30.10	30.157	South	modt.	cloudy, snow at times
29	15	11	13.67	61.7	30.10	30.06	30.082	East	light	cloudy
30	16	10	13.50	61.0	30.10	29.95	30.030	EbN	light	hazy
31	20	10	14.62	64.7	29.90	29.61	29.755	N Easterly	light	hazy, snow at times
	+29	− 9	+12.79	61.5	30.49	28.68	29.627			

CHAPTER XIII.

PREPARATIONS FOR THE WINTER—VARIOUS METEOROLOGICAL PHENOMENA TO THE CLOSE OF THE YEAR 1822—SICKNESS AMONG THE ESQUIMAUX—A HOSPITAL BUILT NEAR THE SHIPS FOR THEIR ACCOMMODATION—METEOROLOGICAL PHENOMENA TO THE END OF MARCH—ABSTRACT OF THE COMPARATIVE MEAN WINTER TEMPERATURE AT MELVILLE ISLAND, WINTER ISLAND, AND IGLOOLIK.

1822. Novemb. THE measures now adopted for the security of the ships and their stores, for the maintenance of economy, cleanliness, and health, and for the prosecution of the various observations and experiments, being principally the same as those already detailed in the preceding winter's narrative, it will only be necessary to mention those particulars in which, either from some slight difference of situation, or from our additional experience, any deviation from the former plans was now considered necessary.

It is worthy of notice that each succeeding winter passed in these regions had suggested to us the expediency of leaving our masts, yards, sails, and rigging more and more in their proper places than before: and all that we now did was to strike the top-gallant yards and masts, unreeve the running-rigging to prevent chafing by the wind, lay the small sails across the tops, and hang the spare spars over the side. It may, indeed, be safely affirmed that, in a high latitude, the less the masts and yards are dismantled the better, for the frost does no injury to the geer while it remains unmoved; and none can possibly occur from thawing till the proper season for refitting arrives. The boats were placed on the ice, about fifty yards from the ships, and with their geer stowed in them closely covered with snow.

In banking the snow against the ships' sides, pains were taken to make this a more effectual protection than before. For this purpose a wall of sufficient height, composed of cut slabs of snow, was first constructed at the distance of four or five feet from the bends, and loose snow afterwards thrown

in between, till it reached considerably above the chains, so as to cover nearly the whole of the upper-works. We also laid over the upper-deck fore and aft, as well as upon the hatchways and companions, about eight inches depth of snow, and above that a coating of sand cemented by water, so as to form a firm and level covering of these materials. Though there can be little doubt of the efficacy of this plan in preventing the escape of a portion of the warmth from below, it is also to be recommended as of essential service in preventing the planks from rending, and the pitch in the seams from being cracked, effects which the frost is otherwise sure to produce. 1822. Novemb.

The facility which our people had acquired by our intercourse with the Esquimaux in the application of snow to the use of building, induced me also to surround the Fury with a wall of that plentiful material; it was twelve feet high, and placed at the distance of twenty or twenty-five yards from the ship, forming a large square like that of a farm-yard. It is probable that such a wall may be favourable, during high winds, for preventing in some degree the rapid abstraction of heat from a ship, while it also serves the purpose of keeping out snow drift, and of affording a comfortable shelter for walking with almost every wind that can blow.

In housing-in the ships, the "pitch" of the roof was made somewhat less than before, the height of the centre spar being now thirteen feet above the deck; and as the day-light began to return, two or three of the glazed garden frames were fitted into the cloth as skylights, which proved a great convenience. I may here mention that scarcely any snow rested on the housing during the winter, a fresh breeze invariably carrying away that which any preceding light weather had allowed to lodge there. The same remark applies to our tops, masts, yards, and rigging, which were perhaps more clear of snow in April than in October.

The observatory house on shore was now built rather smaller than before, being thirteen feet by eight, of which the observatory part occupied five feet of one end, leaving a room eight feet square for the instruments and other apparatus. It was also built with a flat instead of a "pitched" roof; and this, as well as the sides, were of single planks, lined on the inside with canvass, and closely covered without, first by turf and then by slabs of snow. It is only necessary to add that, in all these alterations, the advantage was no less felt in the additional warmth, than in the reduction of labour and materials requisite in the construction.

The distance between the two ships, though not such as to prevent con-

1822. Novemb. stant intercourse, was nevertheless too great to allow of our continuing the theatrical entertainments, by which our former winters had been considerably enlivened. This was however the less requisite, and indeed entirely unnecessary, on account of our neighbourhood to the Esquimaux, whose daily visits to the ships throughout the winter afforded, both to officers and men, a fund of constant variety and never-failing amusement, which no resources of our own could possibly have furnished. Our people were, however, too well aware of the advantage they derived from the schools, not to be desirous of their re-establishment, which accordingly took place soon after our arrival at Igloolik; and they were glad to continue this as their evening occupation during the six succeeding months.

The ordinary occupations and occurrences of the winter having now lost the novelty which could alone have imparted to them at first any interest or amusement in the relation, I shall perhaps be readily excused for passing them over in silence; and for confining myself principally to an account of the natural phenomena observed during the winter, and to a few occasional remarks on the means of preserving health in these regions.

Frid. 1. During the first week in the month of November, the weather for this climate continued tolerably mild, and the temperature then fell to 30° below *zero*, which change we felt very sensibly. Open water was still observed at the distance of two or three miles in the offing, with columns of frost-smoke over it and a bluish "water-sky" about that part of the horizon. A grouse *(tetrao albus)* was killed at the huts on the 16th, having, besides the black near the tip of the tail-feathers, two speckled feathers not far from the end of the tail.

About this time, a number of the Esquimaux sent sledges and dogs for several of their relatives coming from Amitioke, among whom were many of our old acquaintance and some also who were strangers to us. Among others was our young friend Toolooak, who arrived in company with another remarkably fine young man named *Oo-toō-gu-ak*. The former, as we now found, had come for the very important purpose of entering on the cares of the marriage-state, though his own age was only from seventeen to eighteen, and that of his wife, a very pretty girl named *Eērktŭă*, not more than sixteen. These youthful marriages are quite common among the Esquimaux of Igloolik, and in some instances take place even at a still earlier age than that just mentioned; for a girl named *Ang-oot*, who had been the wife of Kongolek for several months, could not possibly have passed the age of thirteen at this

time. The marriage ceremony appears to be very simple, consisting only in the husband coming, when desired, to the hut or tent of the bride's father, and taking her to his own by force. As the time of the marriage seems to depend wholly on the caprice or interest of the parents, the reluctance expressed by the female, and which the women humourously enough described to us as forming an indispensable part of their conduct on this occasion, is probably not always a matter of mere form or pretended coyness. This event constitutes a most important era in the life of the young couple, who immediately set up a separate establishment, similar to that of the oldest married people, and the husband is thenceforth bound to labour for the support of his wife. There can be no doubt of the advantage of these early marriages to both parties; nor is there any time of life at which an Esquimaux of either sex may be considered as better furnished both with food and clothing, than during the first five or six years after this event has taken place. 1822. Novemb.

Toolooak had scarcely arrived a couple of hours, when some of our gentlemen going out to the village found him seated beside his wife with all the gravity and sedateness of an old married man; and on the following day they both came to the ships. Toolooak having grown considerably, had a much more manly appearance than before; but neither he nor his wife had much to say for themselves at this their first visit. "The bride" was dressed out, while she remained on board, in all the finery we could muster, and both received numerous useful presents to assist in setting them up in the world. Toolooak's travelling companion Ootooguak particularly attracted our notice on account of his height, which was five feet nine inches and three quarters, or within a quarter of an inch of the tallest we had yet seen in the tribe. It is no less remarkable also that his father *Nannow*, and his brother *Ooyārrasoo*, who arrived shortly after, were both uncommonly fine and tall men for Esquimaux, the first, notwithstanding a slight degree of decrepitude, standing five feet eight and a half and the latter five feet nine inches in height.

I must here notice an occurrence which had lately taken place, and which created no inconsiderable sensation among the Esquimaux. Though the authority of the husbands is in most respects strictly maintained among these people, yet their conduct towards their wives is far from being unkind, and they seldom if ever proceed to the extremities too common with some savages. A few days ago, however, an elderly man named *Sherādeoo*, in consequence

1822. Novemb.

of some altercation between his two wives, undertook to settle their dispute by means of his knife, with which he inflicted some very severe cuts on the forehead of one, and on the hand of the other. Some of our gentlemen found them sitting very contentedly in their hut, with one of the wounds sewn up, and both covered over with the hair of deer adhering by the coagulated blood. They were evidently very shy of shewing them, and Sheradeoo exhibited a good deal of uneasiness at having his domestic affairs thus inquired into; so that, upon the whole, our gentlemen on their return confessed that here, as elsewhere, it seemed most prudent not to interfere in the quarrels betwixt man and wife. The Esquimaux uniformly spoke of this occurrence as a matter of real reproach; which circumstance, together with the fact of its being the only instance that has come to our knowledge during a long intercourse with these people, is a sufficient proof that it forms an exception to their ordinary conduct, and cannot therefore fairly be considered an impeachment of their general character.

The Esquimaux having occasionally at this season a quantity of venison at their huts which, as well as large loads of walrus-flesh, they continued for some time after the setting-in of the winter to bring from various distant stores, a general permission was given to purchase meat, to be paid for out of the presents. The article most in request, however, was wood, and for a piece of rough spar about seven feet long and from two to three inches thick, I purchased for the use of the ship more than seventy pounds of the finest venison we had ever seen, while smaller portions were occasionally obtained for less valuable articles. Captain Lyon and myself also bought some dogs and set up our own sledges, which proved of infinite convenience in various ways during the winter, there being an excellent hard and beaten road constantly kept between the ships and the huts, by the frequent walking and driving of ourselves and the natives. These people parted with their dogs without much reluctance, and at first at a moderate price; and the dogs in a short time became so domesticated among us, that they would never leave the ships. It seems a curious piece of inconsistency in the disposition of these people that, harshly as in many respects they certainly treat their dogs, they were not satisfied to sell them to us till assured we did not mean to kill them; and they thanked us more heartily, I believe, when they saw us building a house for their reception, than they would have done for a similar attention paid to themselves. The dogs on their part shewed that this

regard was reciprocal, for even after they became perfectly familiarized to the ships, they always fawned upon their old masters, and expressed great delight at seeing them. 1822. Novemb.

Some wolves continued still to prowl about us, and three of these hungry animals were nearly on the point of attacking a Newfoundland dog of Mr. Richards's, which went playing about them, when he was called off in time to save him. On the 23d, the thermometer, for the first time, got down to —38°, when our mercury in the artificial horizons, being probably adulterated by lead from the troughs, froze into the form of branches of trees, extremely beautiful, and retaining all its brilliancy of surface. For several days about this period the cold continued uniformly intense, but with every westerly wind there was open water at no great distance to the south-eastward of the island, where the Esquimaux almost daily resorted for the purpose of killing walruses. On the 30th in the morning we remarked a simultaneous increase of wind and in the temperature of the atmosphere, the thermometer rising from $-26\frac{1}{2}°$ to $-20°$ as the breeze freshened, without any other apparent cause affecting it. The mean temperature of the month of November, which was $-19° 37'$ we considered a low one, being only $1\frac{1}{4}°$ above that of Melville Island in 1819. Sat. 23. Sat. 30.

The appearances of the Aurora Borealis were neither frequent nor brilliant during this month. On the 7th near midnight this phenomenon appeared from E.S.E. to S.W., forming an irregular arch of white light, not continuous in every part, and about eight degrees high in the centre. From the upper margin of this arch, coruscations now and then shot upwards towards the zenith. On the morning of the 21st, Mr. Ross remarked a bright arch of the Aurora passing through the zenith from east to west, and meeting the horizon at each end: besides this, two smaller and apparently concentric arches were visible to the southward, the higher arch being in the centre about twenty degrees above the horizon and the other about ten degrees. An arch of the same kind appeared at night in the south-west quarter of the heavens. On the 3d a column of light tinged with prismatic colours appeared on each side of the sun, at the angular distance of $22° 05'$, and a parhelion at the same distance above it. The columns indeed were, properly speaking, parts of an imperfect circle or halo; beyond these, however, at the same height above the horizon, and distant from the sun forty-six degrees, was a second parhelion on each side, slightly coloured like the others; so that five of these were visible at the same time, though none but the two first mentioned were

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Igloolik, during the Month of *November*, 1822.

Day	Fahrenheit's Thermometer.			Mean Temp. of lower deck.	Barometer.			Prevailing Winds.		Prevailing Weather.
	Maximum.	Minimum.	Mean.		Maximum.	Minimum.	Mean.	Direction.	Velocity.	
	°	°		°	inches.	inches.	inches.			
1	+8	-6	+0.08	61.7	30.66	29.57	29.622	WNW	light	cloudy—snow at times
2	-6	24	-14.50	61.0	29.82	29.67	29.725	West	light	fine
3	8	24	17.67	58.7	29.92	29.78	29.855	NW	light	fine and clear
4	10	26	16.79	59.2	29.94	29.83	29.902	West	light	hazy
5	+1	20	9.92	56.7	29.82	29.72	29.772	Round the Compass	light & varia.	cloudy
6	-7	25	12.08	56.0	29.75	29.72	29.732	South	light	hazy
7	15	29½	21.75	56.0	30.10	29.83	29.980	NW	light	fine and clear
8	3	30	18.50	51.0	30.17	29.62	30.007	SE	light	hazy
9	+8	4	+1.46	56.0	29.60	29.20	29.378	ESE	fresh	hazy, snow at times
10	-2	19	-8.17	55.7	29.74	29.61	29.707	NNW	fresh	cloudy
11	20	31	26.04	54.2	29.70	29.53	29.608	NW	fresh	clear
12	25	28½	27.25	52.7	29.48	29.29	29.432	West	modt.	clear
13	26	31	28.37	52.0	30.19	29.59	29.867	Northerly	light	fine and clear
14	21	29	24.00	51.2	30.13	30.00	30.064	NNW	modt.	fine and clear
15	18½	24	20.21	50.2	29.99	29.68	29.818	NW	fresh	fine and clear
16	15	20	18.08	52.0	29.60	29.50	29.523	NW	light	fine
17	11	18	15.25	53.7	29.80	29.50	29.633	WNW	fresh	clear
18	8	19	14.17	53.0	29.91	29.89	29.900	SW	light	fine and clear
19	+1	8	3.50	57.0	29.88	29.83	29.852	SW	light	hazy
20	-10	20	10.88	57.0	29.90	29.80	29.872	NW	modt.	fine
21	19	25	21.67	57.7	29.77	29.60	29.672	NW	modt.	fine
22	26	30	27.67	57.7	29.70	29.57	29.633	WNW	light	clear
23	30	32	30 83	54.7	29.84	29.78	29.810	NW	light	fine and clear
24	30	32	31.25	55.7	29.84	29.80	29.836	West	light	fine and clear
25	30	32	31.58	53.7	29.76	29.44	29.595	West	light	fine and clear
26	24	30	25.33	54.0	29.36	29.29	29.313	NNW	light	cloudy
27	23	26	24.71	52.0	29.40	29.36	29.378	NW	light	fine
28	25	30	26.96	53.0	29.63	29.42	29.537	NNW	modt.	fine
29	24	31	26.67	55.2	29.73	29.66	29.706	NNW	light	fine
30	17	26½	20.83	56.7	29.76	29.74	29.745	West	fresh	cloudy
	+8	-32	-19.37	55.8	30.17	29.20	29.715			

very distinct. On the 16th Mr. Ross and myself observed near the northern horizon, and exactly opposite to the sun, a circular patch of faint white light; its size was many times larger than that of the sun, though it was not at all defined about the edges, being indeed rather softened off into the purple sky on which it rested. On the 22d the sun rose with a bright spot of white light at the distance of twenty to thirty degrees on each side of it, and a vertical column of a red colour extended from the sun to about two degrees above it. This last phenomenon is very common in cold weather and when the sun's altitude is very small. A cross was observed about the moon on the 27th, consisting of vertical and horizontal rays of whitish light appearing to pass through that object. 1822. Novemb.

At apparent noon, on the 2d of December, six days after the sun had independently of the effects of refraction set to us for a period of more than seven weeks, we caught a glimpse of its upper limb from the deck of the Fury, about one-sixteenth of its whole disk being visible above the low land to the southward. It is impossible not to acknowledge the benevolence as well as to admire the wisdom of the law which, among all its varied and wonderful effects displayed throughout the works of nature, contrives to shorten, by nearly a whole fortnight, the annual absence of this cheering luminary from the frozen regions of the earth, and thus contributes so essentially to the welfare and enjoyment of their numerous inhabitants. Decemb. Mon. 2

On the 4th I drove out to the huts, accompanied by Mr. Hooper, principally with the intention of bringing back one of my dogs that had strayed to the village, and which Toolemak, his former master, had been employing in his fishery for several days past, instead of bringing him honestly back; a trick which evidently shewed a disposition to try how far they could safely go in this way, and of which therefore it was as well to take some notice in good time. Including the late addition of our Winter Island acquaintance, the number of separate huts now amounted to fifteen or sixteen, which, together with the usual appurtenances, such as canoes, sledges, and several smaller storehouses, occupying perhaps a quarter of an acre of ground, constituted a village of no mean nor uninteresting appearance. We found very few men at the huts, the greater part being absent in quest of walruses; and after passing an hour or two in several of the apartments, and making a number of presents to the women, we were under the necessity of coming away without performing our principal errand, as neither Toolemak nor my dog made their appearance. I took care, however, publicly to proclaim Toolemak as a *tigliktoke* Wed. 4.

1822. Decemb. (thief,) which declaration, as I expected, produced the greater effect from the notice we had hitherto taken of him, and the respect in which he was held by the Esquimaux in his capacity of Angetkook. As a more effectual preventive, however, against a repetition of this kind of roguery in future, I took away from his hut a large piece of wood that I had given him for two dogs, till he should return the one in question, explaining to his wife my reason for doing so; and then returned to the ships. A day or two afterwards the dog was returned in due form, and with every expression of sorrow and contrition that Toolemak could muster on such an occasion. It deserves to be noticed as a fact extremely creditable to these people, that though for above two hours we had left our sledge unguarded, and with numerous valuable presents upon it, we did not find a single article missing when we came away, and this was by no means the only instance of the same thing occurring.

I found on my return to the ships that two of our English dogs, having incautiously set off in chase of a wolf near the Hecla, one of them, a Scotch terrier belonging to Lieutenant Reid and a great favourite with us, had been caught and devoured by the hungry and ferocious animal. The other had escaped by being a quicker runner; though the resemblance of the wolf to the Esquimaux dogs was such as to have probably deceived them till they approached him very close.

Sun. 8 On the 8th, for several hours before and after noon, a vertical column of pale red light appeared immediately over the sun's place, extending a degree or two above the horizon, and shifting its position only as the sun swept round to the westward. From the 9th to the 12th the thermometer frequently fell to — 43°, being a greater degree of cold than had at all been experienced during the preceding winter; and the temperature now kept down with a degree of constancy that had not been experienced even at Melville Island at this season.

Sun. 15. On the 14th and 15th the wind blew hard from the west and N.W. for several hours, with considerable snow-drift, notwithstanding which the mercury in the barometer kept up as high as 29.80 inches for more than four and twenty hours successively, and clear and moderate weather succeeded for
Tues. 17. two or three days. On the 17th Mr. Ross killed another grouse of the same species as before, and weighing one pound fourteen ounces; it had in its maw the buds of the ground willow, some seed vessels of the *saxifraga oppositifolia*, and a small quantity of moss. The smoke issuing from the stove-
Thur. 19. pipes kept remarkably low during the whole of the 19th, the thermometer

being from −30° to 33°, and the mercury in the barometer at 30.07 inches. As the reverse of this was frequently the case when these instruments afforded an indication nearly similar, it appeared to us to depend on some other condition, perhaps the moisture, of the atmosphere. On the 21st there being a fresh wind, with the sky clear overhead, Arcturus was discernible to the naked eye till forty-seven minutes after eleven, A.M., apparent time; at half an hour past noon it was again visible, and stars of the second magnitude could be distinguished at three-quarters past one o'clock. 1822. Decemb. Sat. 21.

On Christmas-day I directed a small addition to be made to the allowance of provisions, including a dinner of fresh beef that had been killed on board the Nautilus in the month of June, 1821, and preserved with a very small quantity of salt rubbed over it, on deck, since that period. Though I never saw a Christmas spent in so orderly a manner at sea, it did not pass without producing some injurious effects upon the health of the men, several serious cases of disordered bowels occurring immediately afterwards, in spite of every precaution. As more than usual care had been taken to avoid excess or exposure among them, Mr. Edwards considered this circumstance as tending to evince a greater susceptibility in this way than had been exhibited during our first winter. On the 26th Mr. Ross shot another grouse (*tetrao albus*,) weighing one pound eight ounces, and having in its maw the same vegetable substances as the last. On the 28th the smoke from the funnels was again observed to keep unusually low, skimming along the top of the housing as it escaped, and then descending to the ice. The thermometer was at this time at −35°, and the mercury in the barometer at 29.65 inches, the wind being light at N.N.W. Wed. 25. Thur. 26. Sat. 28.

The year closed with the temperature of —42°, the mean of the month of December having been 27° 8, which, taken in connexion with that of November, led us to expect a severe winter. Observing a considerable difference in the indication of some of our spirit-thermometers, ten of these instruments were exposed to the atmosphere under exactly similar circumstances*: when they were found to range from −35° to −48°, the two hitherto registered on board and on the ice, indicating from 2° to 3° higher than the mean of the whole number. The latter of these two was in future used for registering Tues. 31.

* Of this number five were of uncoloured spirits, with the scales graduated as low as −200°; the rest were of alcohol coloured in the usual manner. By subsequent comparisons it appeared that at higher temperatures, especially above *zero*, the disagreement was much less between the same instruments.

1822. Decemb. the temperature, and that on board altogether dispensed with; so that the degree of cold found in the Meteorological Abstracts during this winter, will be from 2° to 3° less than the mean above alluded to. In estimating the mean temperature of the year, the same deduction may fairly be made during the other months, as a correction for the difference between the thermometer on board, and that freely exposed at a distance from the ship.

In the meteorological phenomena observed during the month of December, there was little that deserves particular notice. On the morning of the 1st of December a luminous spot of white light or paraselena was seen on each side of the moon, at the angular distance of 23°. Between one and two A.M. on the 13th, while Messrs. Ross and Bushnan were employed in taking some observations alongside the Fury, they saw a vivid flash of light, which it afterwards occurred to them must have come down the electric chain attached to the masthead, directly under which they happened to be standing at the time. As soon as Mr. Fisher was acquainted with this circumstance he applied the electrometer to the chain, but as usual without any perceptible effect on the gold-leaf. The Aurora Borealis had been visible to the southward for some hours during the night, but had disappeared for half an hour before the flash was seen. About nine A.M. on the 19th, Mr. Hooper observed a meteor in the W.b.S., about 50° above the horizon, whence it descended in a curved line, having its convex side towards the horizon, and disappeared in the W.b.N. In size and brilliancy it resembled the planet Jupiter, and the time of its continuance was about three or four seconds.

About the middle of the month of December several of the Esquimaux had moved from the huts at Igloolik, some taking up their quarters on the ice at a considerable distance to the north-west, and the rest about a mile outside the summer-station of the tents. At the close of the year from fifty to sixty individuals had thus decamped, their object being, like that of other savages on *terra firma*, to increase their means of subsistence by covering more ground; their movements were arranged so quietly that we seldom heard of their intentions till they were gone. At the new stations they lived entirely in huts of snow; and the northerly and easterly winds were considered by them as most favourable for their fishing, as these served to bring in the loose ice on which they principally kill the walruses. At the distant station, however, which was farther removed from clear water, their principal dependence was on the *neitiek*, which is taken by watching at the holes made by that animal in the ice. Abreast of Igloolik the clear water was not, with a westerly

wind, more than three miles distant from the land, and a dark water-sky continued accurately to define its position and extent. 1822. Decemb.

From the time of our first arrival here in the autumn, the Esquimaux had been in the habit of catching foxes upon the west point of the bay, called by them *Arngnă-kō-ĕk-seăt.* The traps used for this purpose were extremely simple and ingenious, and to us quite new. They consisted of a small circular arched hut of stones, having a square aperture at the top, but quite close and secure in every other part. This aperture is closed by some blades of whalebone which, though in reality only fixed to the stones at one end, appear to form a secure footing, especially when the deception is assisted by a little snow laid on them. The bait is so placed that the animal must come upon this platform to get at it, when the latter (unable to bear the weight) bends downwards, and after precipitating the fox into the trap, which is made too deep to allow of his escape, returns by its elasticity to the former position, so that several may thus be caught successively. The Hecla being near the point, Mr. Mogg was much in the habit of accompanying the Esquimaux to their traps, and remarked that the foxes were very numerous till about the end of November, when they began to fall off in number, and the traps were less regularly visited than before. A few were however taken in the month of December, towards the end of which many of the traps were neglected, and allowed to fill up with drift. In the early part of January the rest were dismantled, but Mr. Mogg caught two after this; one on the 23d of January, being a male of a bluish cast, with the tips of its ears and tail black; the other a female larger than the former and beautifully white, taken on the 13th of February. Their weight was eight and eight and a half pounds, and the temperatures of their bodies when just killed 100½° and 100°. The foregoing account of the time when these animals were most abundant, agrees with what we had before observed at Winter-Island, and Mr. Mogg considered their number to have been here fully as great. Some of the Esquimaux were thus furnished with outer jackets of fox-skins with the fur outside, forming a remarkably clean, comfortable, and handsome-looking costume, though the material is by no means a durable one.

The first week of the new year brought a continuance of cold weather: after which, for the succeeding fortnight, the temperature was remarkably high, the thermometer frequently rising above *zero*, and once to + 22°, which occurred with a fresh easterly breeze and some snow falling. An inspection of our Meteorological Abstracts will shew that in this as in every other part 1823. January.

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Igloolik, during the Month of *December*, 1822.

Day	Fahrenheit's Thermometer.			Mean Temp. of lower-deck.	Barometer.			Prevailing Winds.		Prevailing Weather.
	Maximum.	Minimum.	Mean.		Maximum.	Minimum.	Mean.	Direction.	Velocity.	
	°	°	°	°	inches	inches	inches			
1	—15	—20	—16.42	53.0	29.83	29.79	29.813	SSW	light	hazy
2	23	31	27.92	55.2	29.78	29.48	29.637	West	light	fine
3	12	29	19.17	57.0	29.43	29.19	29.277	West	light	cloudy
4	11	20	16.33	55.2	29.30	29.20	29.247	NNW	light	hazy, snow at times
5	14	23	19.17	57.2	29.32	29.30	29.303	NbW	modt.	hazy
6	16	23	18.50	56.0	29.57	29.32	29.447	ENE	light	fine
7	20	29	23.92	61.7	29.67	29.58	29.615	ENE	light	fine
8	26	35	30.62	59.0	29.65	29.57	29.598	North	light	fine
9	36	40	38.35	56.0	29.65	29.60	29.625	NW	light	fine
10	39	42	40.42	56.0	29.63	29.62	29.624	NW	light	fine and clear
11	39	42	40.42	57.2	29.72	29.63	29.687	West	light	fine and clear
12	37	41	39.29	57.7	29.82	29.70	29.737	West	light	clear
13	35	38	36.58	57.7	29.90	29.85	29.876	NW	light	fine
14	24	33	28.42	54.0	29.90	29.80	29.852	West	fresh	fine
15	24	30	26.67	52.0	29.80	29.80	29.800	NW	modt.	hazy
16	29	35	32.50	53.7	29.83	29.65	29.737	West	light	fine
17	30	36	32.83	50.7	29.70	29.60	29.630	NNW	light	fine
18	30	37	33.33	49.2	30.02	29.72	29.900	N.Easterly	light	fine
19	29	33	31.00	53.0	30.07	30.02	30.057	NNE	modt.	fine
20	17	27	21.42	54.0	30.00	29.96	29.978	North	fresh	clear, with drift
21	14	19	17.04	54.0	29.89	29.58	29.742	NW	fresh	clear
22	13	16	14.17	51.0	29.50	29.18	29.318	NW	fresh	clear
23	11	22	14.29	56.0	29.18	29.07	29.140	NW	light	fine and clear
24	10	19	13.25	58.2	29.24	29.18	29.212	WSW	light	hazy, and snow
25	11	29	21.00	63.0	29.18	29.10	29.118	Westerly	light	clear
26	25½	32	28.96	61.0	29.22	29.09	29.148	NW	light	hazy
27	27	37	32.96	61.7	29.55	29.24	29.405	West	light	fine and clear
28	31	35	33.25	60.2	29.70	29.59	29.653	NNW	light	fine
29	32	40	36.50	60.0	29.75	29.70	29.717	Westerly	light	fine and clear
30	36	40	38.83	58.0	29.72	29.58	29.642	West	light	fine
31	33	43	38.37	61.0	29.83	29.62	29.712	West	light	fine
	—10	—43	—27.80	56.5	30.07	29 07	29.580			

of the polar regions we have yet visited, a southerly or easterly wind occasioned a rise in the thermometer, while the greatest cold was always experienced with the wind in the opposite quarters. 1823. January.

On the 1st of January the star Capella could be kept sight of with the naked eye till half an hour before noon, the weather being remarkably clear and fine. On the 5th, the sky looked so red towards noon that we were induced to look out for the sun from the masthead, but without success, though we could not help fancying every moment that it was about to burst above the horizon. After this the sky was so constantly overcast for a fortnight, that we did not obtain a sight of it. In the first week of January, the proportion of coals for the main-hatchway stoves was increased to five pecks per day, or the quantity for which they were expressly constructed. This proportion of fuel, which was now expended for the first time since leaving England, was continued for eleven weeks, or till towards the end of March; after which the expenditure of coals for this apparatus was gradually diminished, and it was permanently discontinued for the season on the 10th of June. About this time some more of the Esquimaux shifted their quarters from Igloolik to the ice, leaving the permanent huts upon the island now deserted by about one-half their inhabitants. Wed. 1 Sun. 5 Mon. 6.

On the 19th, the weather having at length cleared up, we were once more gratified with a sight of the sun, and numerous parties of walkers were seen in various parts of the bay, enjoying the novelty and splendour of this cheering and glorious sight. A parhelion also appeared on each side of the sun; and exactly opposite to it near the northern horizon was a large circular patch of white light, precisely similar to that described on the 16th of November. The Esquimaux who were at the ships to-day before the sun rose, particularly said that we should see it, and apparently with great confidence. It is certain however that on this occasion no sun-dance took place, nor any other festivity of the kind described by Crantz *; their only expression of satisfaction at this event being of the same general nature as our own. Sun. 19.

About this time the accounts from the huts, as well from the Esquimaux as from our own people, concurred in stating that the number of the sick, as well as the seriousness of their complaints, was rapidly increasing there. We had indeed scarcely heard of the illness of a woman named *Kei-moō-seuk*, who it seemed had lately miscarried, when an account arrived of her death. Tues. 21.

* Crantz, I. 76

1823. January. She was one of the two wives of *Ooyarra*, one of Captain Lyon's fellow-travellers in the summer, who buried her in the snow about two hundred yards from the huts, placing slabs of the same perishable substance over the body, and cementing them by pouring a little water in the interstices. Such an interment was not likely to be a very secure one, and accordingly a few days after, the hungry dogs removed the snow, and devoured the body.

Wed. 22. We had also heard of the indisposition of a woman named *Pootōo-ă-loŏk*, the wife of *Takkee-likkee-tā*, and the accounts of her being now more unfavourable than before, Captain Lyon drove out to the huts on the 22d, accompanied by Mr. Mac Laren, to see and endeavour to relieve her. They found her in an extremely debilitated state, and her child, which was about three years of age, lying under the same skin, apparently almost starved in consequence of its mother's inability to suckle it. After feeding them both with a little arrow-root, Captain Lyon desired the man to come to the ships the next day for some medicines, as well as for some blankets to add to their warmth and dryness. On entering one of the bone huts, Captain Lyon discovered a log of wood forming a transverse beam above the entrance: on examination it proved to be of fir, without bark, from four to five feet in length, about eight inches in diameter, and having no appearance of being eaten by worms. The Esquimaux informed him that it had been picked up on the island of Neerlo-nakto, but did not trouble themselves to form any conjecture from whence it came. This circumstance is principally worth mentioning for the sake of introducing a much more singular one, that, during five summers' navigation on or about the north-eastern coast of the American continent, we have never met with one piece of drift-wood floating in the sea.

While speaking on this subject, I may not improperly add what has been the result of numerous inquiries respecting the wood which, as we understood the Esquimaux, was said to grow at or near *Akkoolee*. It appeared from some conversations with these people after our arrival at Igloolik, that, upon the north-west point of an island on that coast, called *Seāt-toke*, a considerable quantity of wood of large dimensions is found; but so difficult is this place of access that, of all the Esquimaux of whom we have a personal knowledge, it is extremely doubtful whether a single individual has ever been there, and the information is, therefore, entirely from hearsay. Ewerat, who was the clearest in his account of it, and who derived all his information on this subject from a very old man now living, but not

personally known to us, assured me, as many others had done, that wood was abundant at the place above alluded to. He explained, however, pretty intelligibly, that it did not *grow* there, as we had at first been given to understand; and upon the whole it seems most probable that the wood of which the Esquimaux speak is drift-wood. That wood should occur in one spot only out of a large extent of coast, suggested to us at the time the idea that it might have been brought there by the current of some river setting it down from the interior of the continent, as on the northern shores of Asia and Europe. The researches of Captain Franklin, however, with which we were then unacquainted, have furnished a more satisfactory mode of accounting for this fact; the wood being probably deposited at Seat-toke by the current observed to set from the westward along the northern coast of America, and bringing with it quantities of drift-wood seen by Captain Franklin on those shores along which his late extraordinary canoe-navigation was performed. 1823. January.

On the 23d Takkee-likkee-ta came to the Hecla according to his promise, and was supplied with various comforts for his wife and child. As however their principal want of comfort arose from the coldness and moisture of their present quarters, Captain Lyon proposed to him to bring them to the Hecla. To this the man joyfully assented and, being furnished with a sledge and dogs, soon brought the invalids on board, where they were comfortably lodged in Captain Lyon's cabin, and attended with all the care that their situation required, and that humanity could suggest. Besides the child that was ill, another also accompanied them named *Shēga*, a pleasing and uncommonly intelligent girl about eleven years of age, whom we now found to have been one of the individuals I saw in Lyon Inlet during the summer of 1821. In the evening I sent my servant to the village, for the purpose of going into all the huts (which from the lowness and indescribable filth of the passages was no easy or pleasant task) to see what other sick there might be. He reported, on his return, that a young man named *Piccoōyak*, a great favourite with our officers and ship's company, was in a very weak condition, and that his wife and another female were lying beside him to keep him warm, at the same time crying most piteously. Early on the following morning, therefore, I despatched Mr. Crawford on the sledge to bring Piccooyak to the ship; but alas! his miseries here were at an end, for he had breathed his last on the preceding evening within an hour after we had first been informed of his illness! His wife *Kaga*, a Thur. 23. Frid. 24.

1823. January. young woman lately brought to bed, was lying about in the snow beside the road, and making lamentations that bespoke much more sincere grief than the cutting off of hair, which the widows here did not always practise*. We did not, however, at this time know what bitter cause of lamentation this event was to prove to poor Kaga.

Mr. Crawford thought he could not now better execute his instructions than in bringing to the ship a young man of the name of *Kooeetseek*, who was very much debilitated by the long continuance of a rheumatic complaint; he was accordingly lodged in our sick bay together with his sister, an intelligent child about nine years of age, named *Kirko-warioo*, who accompanied him as his nurse. The latter soon became domesticated among us and, being well cleaned and dressed in European clothes, amused us greatly by her vivacity and intelligence. Indeed it required no long acquaintance with this poor child, to convince us that art and education might easily have made her equal or superior to ourselves, or, as some of our gentlemen at the time remarked, that there were in reality more shades of dirt than of any other difference subsisting between us.

Scarcely had these arrangements been made on board the Fury, when we heard of the death of Captain Lyon's patient, her extremely debilitated state rendering it impossible to rally her by any means that could be devised. The circumstances attending the death and burial of this poor woman and her child, affording an insight into some of the customs of the Esquimaux on these occasions, are thus related by Captain Lyon, to whom I am indebted for the account.

23 "The mother Poo-too-alook was about thirty-five years of age, the child about three years—yet not weaned, and a female; there was also another daughter Shega, about twelve or thirteen years of age, who as well as her father was a most attentive nurse. My hopes were but small as far as concerned the mother, but the child was so patient that I hoped from its docility soon to accustom it to soups and nourishing food, as its only complaint was actual starvation. I screened off a portion of my cabin, and arranged some bedding for them, in the same manner as the Esquimaux do their own. Warm broth, dry bedding, and a comfortable cabin did

* Crantz, I. 138.

wonders before evening, and our medical men gave me great hopes. As an introduction to a system of cleanliness, and preparatory to washing the sick who were in a most filthy state, I scrubbed Shega and her father from head to foot and dressed them in new clothes. During the night I persuaded both mother and child, who were very restless and constantly moaning, to take a few spoonfuls of soup. On the morning of the 24th the woman appeared considerably improved, and she both spoke and ate a little. As she was covered with so thick a coating of dirt that it could be taken off in scales, I obtained her assent to wash her face and hands a little before noon. The man and his daughter now came to my table to look at some things I had laid out to amuse them; and after a few minutes Shega lifted the curtain to look at her mother, when she again let it fall and tremblingly told us she was dead. 1823. January. 24.

"The husband sighed heavily, the daughter burst into tears, and the poor little infant made the moment more distressing by calling in a plaintive tone on its mother, by whose side it was lying. I determined on burying the woman on shore, and the husband was much pleased at my promising that the body should be drawn on a sledge by men instead of dogs; for to our horror Takkelikkeeta had told me that dogs had eaten part of Keimooseuk, and that when he left the huts with his wife one was devouring the body as he passed it.

"Takkeelikkeeta now prepared to dress the dead body, and in the first place stopped his nose with deer's hair and put on his gloves, seeming unwilling that his naked hand should come in contact with the corpse. I observed in this occupation his care that every article of dress should be as carefully placed as when his wife was living, and having drawn the boots on the wrong legs, he pulled them off again and put them properly; this ceremony finished, the deceased was sewed up in a hammock, and at the husband's urgent request her face was left uncovered. An officer who was present at the time agreed with me in fancying that the man, from his words and actions, intimated a wish that the living child might be enclosed with its mother. We may have been mistaken, but there is an equal probability that we were right in our conjecture; for according to Crantz and Egede the Greenlanders were in the habit of burying their motherless infants from a persuasion that they must otherwise starve to death, and also from being unable to bear the cries of the little ones while lingering for several days without sustenance; for no woman will give them any share of their milk

1823. January. which they consider as the exclusive property of their own offspring. My dogs being carefully tied up at the man's request, a party of our people accompanied by me drew the body to the shore, where we made a grave about a foot deep, being unable to get lower on account of the frozen earth. The body was placed on its back at the husband's request, and he then stepped into the grave and cut all the stitches of the hammock, although without throwing it open, seeming to imply that the dead should be left unconfined. I laid a woman's knife by the side of the body and we filled up the grave, over which we also piled a quantity of heavy stones which no animal could remove. When all was done and we returned to the ship, the man lingered a few minutes behind us and repeated two or three sentences, as if addressing himself to his departed wife; he then silently followed. We found Shega quite composed and attending her little sister, between whose eye-brows she had made a spot with soot, which I learned was because being unweaned it must certainly die. During the night my little charge called on its mother without intermission, yet the father slept as soundly until morning as if nothing had happened.

25. "All who saw my patient on the morning of the 25th gave me great hopes; she could swallow easily and was even strong enough to turn or sit upright without assistance, and in the forenoon slept very soundly. At noon the sister of the deceased, Ootooguak, with her husband and son, came to visit me. She had first gone to the Fury and was laughing on deck and at her own request was taken below, not caring to hurry herself to come to the house of mourning. Even when she came to the Hecla, she was in high spirits, laughing and capering on deck as if nothing had happened, but on being shewn to my cabin, where Shega having heard of her arrival was sitting crying in readiness, she began with her niece to howl most wofully. I however put a stop to this ceremony, for such it certainly was, under the plea of its disturbing the child. The arrival of a pot of smoking walrus-flesh soon brought smiles on all faces but that of Takkeelikkeeta, who refused food and sat sighing deeply; the others ate, chatted, and laughed, as if nothing but eating was worth thinking of. Dinner being over, I received thanks for burying the woman in such a way that "neither wolves, dogs, nor foxes could dig her up and eat her," for all were full of the story of Keimooseuk, and even begged some of our officers to go to Igloolik and shoot the offending dogs. A young woman named Ablik, sister to Ooyarra, was induced after much entreaty and a very large present

of beads, to offer her breast to the sick child, but the poor little creature pushed it angrily away. Another woman was asked to do the same, but although her child was half weaned she flatly refused. 1823. January.

"The aunt of my little one seeming anxious to remain, and Shega being now alone, I invited her to stop the night. In the evening the child took meat and jelly and sat up to help itself, but it soon after resumed its melancholy cry for its mother. At night my party had retired to sleep, yet I heard loud sighing occasionally, and on lifting the curtain I saw Takkeelikkeeta standing and looking mournfully at his child. I endeavoured to compose him and he promised to go to bed, but hearing him again sighing in a few minutes, I went and found the poor infant was dead, and that its father had been some time aware of it. He now told me it had seen its mother the last time it called on her, and that she had beckoned it to Khil-la, (Heaven) on which it instantly died. He said it was "good" that the child was gone, that no children out-lived their mothers, and that the black spot which Shega had frequently renewed was quite sufficient to ensure the death of the infant.

"My party made a hearty breakfast on the 26th, and I observed they did not scruple to lay the vessel containing the meat on the dead child, which I had wrapped in a blanket; and this unnatural table excited neither disgust nor any other feeling amongst them more than a block of wood could have done. We now tied up all the dogs as Takkeelikkeeta desired, and took the child about a quarter of a mile astern of the ships to bury it in the snow; for the father assured me that her mother would cry in her grave if any weight of stones or earth pressed on her infant. She herself, he feared, had already felt pain from the monument of stones which we had laid upon her. The snow in which we dug the child's grave was not above a foot deep, yet we were not allowed to cut into the ice or even use any slabs of it in constructing the little tomb. The body wrapped in a blanket, and having the face uncovered, being placed, the father put the slings by which its deceased mother had carried it, on the right side, and in compliance with the Esquimaux custom of burying toys and presents with their dead, I threw in some beads. A few loose slabs of snow were now placed so as to cover without touching the body, and with this very slight sepulchre the father was contented, although a fox could have dug through it in half a minute. We however added more snow, and cemented all by pouring about twenty buckets of water, which were brought from the ship, on every part of the 26.

1823. January. mound. I remarked that before our task was completed the man turned and walked quietly to the ships.

"During the two last days, I obtained some information with respect to mourning ceremonies, or at all events such as related to the loss of a mother of a family; three days were to be passed by the survivors without their walking out on the ice, performing any kind of work, or even having any thing made for them. Washing is out of the question with Esquimaux at most times, but now I was not allowed to perform the necessary ablutions of their hands and faces, however greasy or dirty they might be made by their food; the girl's hair was not to be put in pig-tails, and every thing was neglected; Takkeelikkeeta was not to go sealing until the summer. With the exception of an occasional sigh from the man, there were no more signs of grief; our mourners ate, drank, and were merry, and no one would have supposed they ever had wife, mother, or sister. When the three days, and it is singular that such should be the time, were expired, the man was to visit the grave; and having talked with his wife, all duties were to be considered as over. The 28th was our third day, but a heavy northerly gale and thick drift prevented our visiting
29. the grave. The 29th, although not fine, was more moderate and I accompanied him at an early hour. Arriving at the grave, he anxiously walked up to it and carefully sought for foot-tracks on the snow, but finding none repeated to himself, "No wolves, no dogs, no foxes, thank ye, thank ye." He now began a conversation which he directed entirely to the grave, as if addressing his wife. He called her twice by name, and twice told her how the wind was blowing, looking at the same time in the direction from whence the drift was coming. He next broke forth into a low monotonous chaunt and, keeping his eyes fixed on the grave, walked slowly round it in the direction of the sun four or five times, and at each circuit he stopped a few moments at the head. His song was, however, uninterrupted. At the expiration of about eight minutes, he stopped, and turning suddenly round to me, exclaimed "*Tūgwă*," (that's enough) and began walking back to the ship. In the song he chaunted I could frequently distinguish the word *Koyenna*, (thank you) and it was occasionally coupled with the Kabloonas. Two other expressions, both the names of the spirits or familiars of the Annatko, Toolemak, were used a few times; but the whole of the other words were perfectly unintelligible to me.

"I now sent Shega and her father home, well clothed and in good case.

The week they had passed on board was sufficient time to have gained them the esteem of every one, for they were the most quiet inoffensive beings I ever met with, and to their great credit they never once begged. The man was remarkable for his extraordinary fondness for treacle, sugar, salt, acids, and spruce-beer, which the others of the tribe could not even smell without disgust; and he walked about to the different messes in hopes of being treated with these delicacies. Shega was a timid well-behaved girl, and generally remained eating in my cabin, for I am confident of speaking far within bounds when I say she got through eight pounds of solids per diem. As far as gratitude could be shewn by Esquimaux, which is saying 'koyenna' on receiving a present, my friends were sensible of the attentions I had shewn them." 1823. January.

We were to-day informed that the corpse of *Picooyak* had fared even worse than that of *Keimooseuk*. The same snow-covering being put over the body, a second disinterment was as easily effected a day or two afterwards, and another meal made by the hungry dogs. In relating this story, at which every feeling of common humanity revolts, the Esquimaux pretended to be very much enraged at the dogs, and to let some of our gentlemen know that they wished the Kabloonas would shoot them. As however it was not the owners of the dogs who expressed this wish, and as we considered a knife quite as effectual in killing a dog as a gun would be, if applied with equal good will, we did not think proper to inflict such a punishment, which, if due at all, would more properly have fallen on those who made the complaint. It is most certain indeed, that none but the immediate relatives of the deceased cared a jot about the matter; nor did the other individuals among them hesitate to laugh as they heard or told the story. On some of our people going out to the village they found that Piccoyak's child had died, owing probably to the misery and consequent inattention of its mother Kaga, who now lived as before with the infirm and aged parents of her late husband.

From the morning of the 24th till midnight on the 26th, the mercury in the barometer was never below 30.32 inches, and at noon on the latter day had reached 30.52 inches, which was the highest we had yet observed it in the course of this voyage. This unusual indication of the barometer was followed by hard gales on the 27th and 28th, first from the S.W. and after- 27 & 28.

1823. January. wards from the N.W., the mercury falling from 30.51 inches at eight P.M. on the 26th, to 30.25 about five A.M. on the 27th, or about 0.26 of an inch in nine hours, before the breeze came on. At midnight on the 27th it had reached 29.30, and on the following night 29.05, which was its *minimum* indication during the gale. These high winds were accompanied by a rise in the thermometer very unusual at this season of the year, the temperature continuing above *zero* for several hours, and very near this point of the scale for the whole two days.

The mean temperature of January proved indeed as remarkable for being a high one, as that of the preceding month had been in a contrary way, being only — 17°.07, or more than ten degrees warmer than December. The first fortnight in February bid fair to present a similar anomaly; the mild weather we now experienced giving us hopes of a winter rather favourable than otherwise, notwithstanding the severity with which it had set in.

We were about this time much shocked to hear, by an arrival from the distant huts, of the death of *Noogloo*, the young man whom I before mentioned as the flower of the whole tribe. His complaint, as far we could learn, had been of an inflammatory nature, and was also of some continuance; as Toolemak, who considered him as his adopted son, had been out to visit him two or three times, and was much afflicted by his loss. There was something peculiarly shocking in the havoc which death appeared now to be making among the younger and more vigorous individuals of this tribe; and never does he seem to inflict a more severe blow than when he selects such as Noogloo for his victim.

February Sun. 2. Having heard also that Innooksioo was ill at the distant huts, I requested Mr. Crozier to call at the village, to endeavour to hire a sledge and a conductor to go out to that station to see him, and, if he wished it, to bring him on board. In this however he did not succeed, the sledges being principally engaged in the fishing, and their owners absent from the huts. Mr. Crozier reporting however that there were still some sick at Igloolik, Mon. 3. I went there on the following day, and arrived at the huts in time to prevent a fine little boy, named *Attangŭt*, who was apparently in a dying state, from being packed up with the rest of his father's goods and chattels, previous to his departure for the next station. Having suggested to his parents that it would be better to place the boy on my sledge, and to send him to the ship, than to take him in his present debilitated state still farther from our assistance, they joyfully accepted the proposal; and I accompanied

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Igloolik, during the Month of *January*, 1823.

Day	Fahrenheit's Thermometer, Maximum.	Fahrenheit's Thermometer, Minimum.	Fahrenheit's Thermometer, Mean.	Mean Temperature of Lower Deck.	Barometer. Maximum.	Barometer. Minimum.	Barometer. Mean.	Prevailing Winds. Direction.	Prevailing Winds. Velocity.	Prevailing Weather.
	°	°	°	°	inches	inches	inches			
1	−42½	−45	−43.75	65	29.93	29.88	29.917	North	light and variable	fine
2	40	45	42.50	61	29.94	29.86	29.907	North	light	clear
3	43	45	44.17	56	29.86	29.83	29.847	NW	light	clear
4	38	45	41.92	54	29.82	29.74	29.792	WNW	light	clear
5	34	42	38.21	58	29.94	29.74	29.847	WNW	light	clear
6	29	34	31.21	57	29.91	29.78	29.835	NW	modt.	clear
7	22	30	26.42	59	29.74	29.56	29.633	NW	fresh	cloudy
8	19	27	22.00	60	29.78	29.57	29.685	NW	light	hazy
9	9	22	15.00	56	29.78	29.37	29.562	NNW	strong	clear and drift
10	+4	7	2.17	59.5	29.50	29.22	29.322	NbW	modt.	cloudy
11	2	23	11.71	60.5	30.05	29.60	29.878	South	modt.	cloudy
12	−8	23½	13.92	62	30.09	30.08	30.082	North	light	hazy
13	+11	14	3.25	65.5	30.00	29.53	29.765	North	modt.	cloudy and drift
14	20	+13	+17.50	66	29.45	29.18	29.335	ENE	fresh	hazy and snow
15	22	4	16.42	61.5	29.19	29.06	29.132	ENE	fresh	hazy and snow
16	6	−3	1.83	70	29.51	29.28	29.425	SE	modt.	hazy
17	0	4	−2.25	64	29.74	29.59	29.682	SE	light	hazy and snow
18	1	2	−0.29	62.5	29.80	29.75	29.792	SSE	modt.	hazy and snow
19	−3	20	13.08	63.5	29.75	29.63	29.682	NNW	light	fine
20	18	21	19.83	65.5	29.83	29.63	29.748	NW	light	fine
21	18	22	20.17	67	29.86	29.78	29.820	NNW	modt.	clear
22	18	26	21.42	62	30.00	29.78	29.853	NW	modt.	fine
23	27	33	30.42	64	30.27	30.05	30.162	West	light	fine
24	24	34	29.87	62	30.37	30.32	30.343	NW	light	fine
25	20	26	22.83	63	30.47	30.37	30.403	North	light	fine
26	10	29	21.08	61.5	30.52	30.45	30.500	North	light	fine
27	+7	11	+0.67	64	30.30	29.30	29.770	SW	fresh	cloudy and drift
28	2	6	−2.37	64.5	29.25	29.05	29.117	NW	strong	drift
29	−1	20	7.92	65	29.36	29.09	29.203	North	fresh	cloudy and drift
30	8	21	16.75	69	29.61	29.32	29.447	NE	light	hazy
31	17	24½	20.04	64	29.93	29.65	29.762	ENE	modt.	clear
	+22	−45	−17.07	62.3	30.52	29.05	29.750			

1823. February

the travelling party to the ice. The road to this new village, to which before the middle of February all the people from the bone huts had removed, was now worn as smooth as that between Igloolik and the ships, except where it passed over the heavy hummocks and large cracks in the ice near the shore. The habitations here were exact counterparts of those at Winter Island; and it was quite a relief to enter them, new and clean as they were, after the filth of the more durable ones at Igloolik. The ice on which the huts stood was near the edge of the squeezed-up or hummocky kind, and, from the cracks close to them, was in all probability touching the ground in most parts; while outside of the village there was a smooth level floe of considerable extent, over which they travelled to their fishery at its margin, where open water still remained at the distance of three miles from the shore. It seemed that they would for the sake of convenience have carried their abodes further out to sea, but that it was not considered safe to venture their whole establishment where the ice was liable to be broken off, and drifted away by the tide. There are few people however who care less for a walk of considerable length, if they have any object in view in accomplishing it, than the Esquimaux; in proof of which, in addition to the instances already adduced at Winter Island, it may be stated that, on some of the most inclement days in this winter, many of the women, and several of the children from eight to eleven years of age were in the habit of walking to the ships and back again, a distance not less than fourteen miles, and sometimes when the road was so covered by snow-drift that it required constant attention to keep in the right track.

On repassing the huts at Igloolik I went to see the parents and widow of Piccooyak, who lived together in a hut of snow in a state of very great wretchedness. The parents, both of them old and infirm, were sitting in one corner with scarcely any clothes upon them, while Kaga lay in another, moaning most lamentably, and almost entirely covered with some skins, of which neither the kind nor original colour could be distinguished for the dirt and grease with which they were besmeared. On my questioning her, she after some time looked up and gave me to understand what indeed appeared to be the case, that she was not ill but simply wretched; and I could plainly perceive that her misery in great part proceeded from the robbery of most of her property, as described by Crantz to be the usual fate of widows in Greenland *. Indeed of numerous presents which she and her husband

* Crantz, I. 192.

had received on board the ships, not one now remained; and a lamp and cooking pot seemed all that her inhuman countrymen had left her, at least of those things which could have been of any service to themselves. There was at this time no food in the hut; and the mild weather produced so constant a dropping from the roof, that had I stayed much longer my own thick clothing must have been wet through. I therefore requested the old man to accompany me to his son's grave; and when there proposed to him to put the body out of the reach of dogs for the future, by burying it in the ground, to which with many tears and thanks he willingly consented; and I promised to send out on the following day to make preparations for that purpose. When the old man lifted up his son's spear at the head of the grave, or rather of the mound of snow containing his mangled remains, he burst into a fresh flood of tears; and frequently complaining of what the dogs had done, repeated quite in an agony of grief the name of Piccooyak. A day or two afterwards I went out according to my promise, and was accompanied to the burial-place by the old man, who though he scrupulously avoided touching the body, which was in a more mutilated state than ever, directed that it should be laid on the back and with the head to the northward. Close to the grave lay his spear, some buttons, a string or two of beads, and a small drinking-cup, all which the old man begged us to deposit in the same manner as before, but would by no means handle himself. He made no objection to the body being covered with the soil, which was light; but a day or two afterwards, when I sent one of our gentlemen out to perform a similar office for the remains of Keimooseuk, her relations objected to our doing so; explaining that when a body was thus buried, the stones ought to be arched over, so as not to rest upon it, a method they intended, as they said, to adopt in the spring. We had reason to believe, however, from the numerous human skulls found near the huts in the summer, that at least in many instances no such trouble is taken with the dead; so that by a combination of superstition, indolence, and indifference, there can be no doubt that other animals besides dogs are permitted not unfrequently to feast upon them. This old man however expressed no scruples of any kind: was thankful and composed when the interment was completed; and being afterwards supplied by us with some clothes for himself and wife, removed to the ice with the rest and, as we afterwards found, existed on the charity of some of the other Esquimaux.

1823. February

The account I gave of poor Kaga on my return to the ships, induced Captain Lyon to send out for her, with the hope of at least preserving her health, and Tues. 4.

1823. February administering to her comfort until she should shew some symptoms of returning energy, the want of which seemed at present to be her principal complaint. She was accordingly lodged in Captain Lyon's cabin, and together with a consumptive looking boy named *Allowseuk*, who also stood much in need of a warm and dry lodging, received every possible kindness and attention. The idea which suggested itself respecting Kaga was that if, as we began to fear, the condition of widows was as destitute here as in Greenland, it would be a charity to endeavour to bring about a match between this her Takkee-likkee-ta; the first step towards which was to rouse her from her present apathy, and then to give her such a portion as might add to her value and respectability as a wife. The grief however which Takkee-likkee-ta continued for some time to express for his late loss, prevented our hinting this scheme to him for the present, and in the meantime the other unfeeling Esquimaux were permitted to entertain any notion they pleased respecting our intentions in bringing Kaga to the ships; for a mere act of charity they either did not or would not understand it to be.

The Esquimaux who had occasional communication with the distant village, having given us reason to suppose that they meant to bring Innooksioo in to the ships, it became evident that some more systematic as well as extensive means must be resorted to for the relief of their sick, than we had hitherto thought of adopting. Captain Lyon's charity being already very highly taxed with a most perverse and thankless patient, as Kaga soon turned out to be, while the Fury's sick-bay began to swarm with lice to such a degree as to render it necessary to turn our own men almost entirely out of it, I determined on building a hospital within the walls of our square expressly for the reception of the natives; and having proposed it to the officers on whom all the trouble would necessarily devolve, a plan for the building, medical attendance, and victualling was immediately settled, with a degree of cordiality and zeal which I can never forget. A house was accordingly constructed with spars, turf, snow, and canvass, twelve feet square, having a passage with two doors, and containing five convenient bed-places for the sick, and a small warming-stove in the centre. All our people being employed about it, Lieutenant Nias completed the building in a couple of days, at no expense but that of labour which could in no way be so well employed. The medical and other attendance was arranged by Messrs. Edwards and Skeoch, and a stock of sea-horse meat laid in by Mr. Hooper, to furnish any patients that might be brought down to the ships.

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We to-day placed a Six's self-registering thermometer in the ground near the observatory, four feet beneath the surface, the indices being set at + 8°. It would undoubtedly have been interesting to have ascertained the temperature of the earth during the winter, at a much greater depth than this; but to give an idea of the difficulty of doing this, it will only be necessary to state that it occupied twenty-seven days to effect what we did, and that at the expense of ten pick-axes broken by digging. After the first twenty inches, where the soil was quite loose, the ground was literally frozen as hard as a rock, so that each blow of the pick-axe brought off only a few splinters accompanied by some white dust. As only one man ould have room to work at a time, another foot in depth would probably have occupied two or three weeks more in completing, and it was therefore considered advisable to take advantage of the present high temperature of the atmosphere to deposit the thermometer and close up the hole. The mercury in the barometer once more stood as high as 30.52 inches to-day, a light wind blowing from the N.N.E., and we had fine weather for two or three succeeding days. 1823. February

To give some idea of the number of deer killed by the Esquimaux at the proper season, I may here state that I to-day counted on a girdle worn round the waist by Toolooak's mother, twenty-nine ears of that animal, which had all been procured by this young man's own exertions in the course of the last summer. His own game of this kind must therefore have amounted to at least fifteen deer, and his mother almost constantly wore the girdle as a proud trophy of her son's exploits. There are few mothers indeed who might not be proud of such a son as Toolooak, who on longer acquaintance quite maintained his former character, of possessing many excellent qualities both of head and heart.

On the 6th Kooeetseek being convalescent was discharged from our sick-bay, and sent on a sledge to the huts, where he soon after regained the flesh he had lost, and was as well as ever. He had scarcely left us when our expected patient, Innooksioo, arrived with his wife, two young children, and all the worldly property they possessed, and was comfortably established in the hospital. This man who, when in health, was one of the most lusty and vigorous in the tribe, was now so much reduced by illness that his face could scarcely be recognised. He was brought to the ship on the sledge of old Nannow, who also accompanied him, and continued throughout his illness to visit him occasionally. Thur. 6.

On the 8th a trifling circumstance occurred which, however, as it exhibits Sat. 8.

1823. February

a trait of Esquimaux character, I may perhaps be excused for relating. A queer old woman, one of our Winter Island acquaintance, brought back unasked a silver thimble which Mr. Skeoch suspected her having stolen out of his cabin a day or two before. She now without reserve confessed that she had taken it, but laughingly told him that, finding it much too small for her finger, she had *honestly* returned it, and concluded with an earnest request to be allowed some beads in exchange for it. Their pilferings had hitherto been so rare and so trifling, that we could easily wink at this piece of petty larceny, which seemed to carry with it its own compensation, by the humours of the old lady's conceit in confessing it.

Among the traits in these people's disposition, and the peculiarities in the history of their social dealings with one another, which our present intercourse served to discover to us, was the circumstance of their being divided into two or three parties, which, though never absolutely quarrelling, were still on no very cordial terms of intimacy. This party-feeling, and the jealousies excited by it, were conspicuous on various occasions, and once displayed themselves on a subject the least likely of any to have given uneasiness to an Esquimaux. One day when Mr. Hooper had been at the trouble of going to the huts to cater for our Esquimaux patients, and had purchased a considerable quantity of meat, he happened in the evening to tell Innooksioo, who was just then regaining an enormous appetite, of his good success in this way; the latter anxiously asked of whom the meat had been procured, and being told that it was Pootooalook, declared that he would never eat a bit of it. Vexatious as this sort of prejudice was likely to prove to us, Mr. Hooper fortunately pretended to assent to it; and Innooksioo having thus satisfied his party-feeling, wisely permitted it to have no farther influence, and avoiding all further questions on the subject, had in a few days demolished his full share of Pootooalook's meat.

> Thus, conscience freed from every clog,
> Mahometans eat up the hog.

Some other prejudices exhibited by these people were not to be so easily compromised, and therefore occasioned greater trouble. The sick must on no account see each other, nor, except in particular cases as before mentioned at Winter Island, be seen by any other person, always, however, excepting *Kabloonas*, to whom the prohibition did not seem to extend. The using of a sick person's drinking-cup, knife, or other utensil by a second individual was sure to be vehemently exclaimed against, the invalid being

always the first to make the objection. We had therefore to furnish a separate set of things for each person, and Innooksioo was so unhappy while the boiler of the stove, which held several gallons, was used for thawing snow for another person's consumption as well as his own, that we were under the necessity of allowing his wife to burn her own lamp, and thus provide him with water at the expense of nearly a gallon of our oil per day. One day, however, this prejudice received a very necessary and serviceable check. Mr. Skeoch while pouring out some medicine into a little glass measure used exclusively for that purpose, and which could not be changed for any other, observed Innooksioo beginning to acquaint the other patient, for whom the draught was intended, that *he* had been drinking out of the same vessel. Mr. Skeoch perceiving the absolute necessity of opposing him in this instance, immediately, and with great seriousness, threatened to beat him if he dared to say another word. The other man having in part overheard from behind his screen what had been going on, asked Innooksioo some question before he would put the vessel to his lips, but Mr. Skeoch's threat having entirely closed those of Innooksioo, no answer was returned, the medicine was drank without further hesitation, and this point once for all effectually gained. 1823. February

These and several other fancies of the Esquimaux combined, as may be supposed, to render the hospital duties no sinecure to those engaged in performing them; and in thus noticing occurrences in themselves perhaps so trivial and unimportant, I have had in view the double object of illustrating the character and disposition of these people, and of doing all the justice in my power to those gentlemen who, with unabated patience and assiduity, continued to combat every difficulty, resolved if possible to cure the Esquimaux even in spite of themselves.

While such were the difficulties attending the management of our public infirmary, Captain Lyon had suffered his full share of annoyance from the frowardness of Kaga, who, to the usual unthankfulness of the Esquimaux disposition, unfortunately added a degree of self-willed perverseness that rendered her wholly intractable, and wore out the patience of all that were concerned in attending upon her. Her strength and spirits were now so much restored that she could sing when not too sulky, and had made for herself a fear-nought jacket, of which she stood much in need, so that it was determined to send her back to the village; *Nuyākka*, a man noted for his respectability, and who said that his wife was Kaga's sister, having pro- Mon. 10.

1823. February mised to lodge and feed the widow in his own hut. She was therefore sent back on the 10th upon Captain Lyon's sledge, having first expressed her gratitude by stealing a knife, which was found concealed under her jacket at the moment of her departure.

Toolemak, who came to the ships to-day, was extremely low and dejected on account of Noogloo's death, and it was often remarked afterwards that the tears stood in his eyes whenever he spoke of that young man. He went several times into the hospital, asked Innooksioo a number of questions respecting his lodging and other accommodations, of which he had good sense enough to see the full value, and sufficient candour to thank us very heartily for our attentions. This man furnished the only instance that came under our notice, of any thing approaching to superiority acknowledged by the Esquimaux. To Toolemak's opinion and wishes many of the others unquestionably paid considerable deference, and he appeared in many instances to be so much better furnished with food than the rest, that he undoubtedly drew occasional supplies from several of the tribe. This distinction, which went no farther than I have related, and for which he was of course indebted to his professional merits, was after all confined to a certain party; the rest of the Esquimaux always listening with extreme satisfaction to any thing that might be said to Toolemak's disadvantage, and evidently triumphing in his disgrace.

The Esquimaux had about this time killed several sea-horses and meat was abundant at the village. They also killed several bears in the course of the winter, amounting in all to eight or ten, in the space of six or seven months; but none of those animals had been seen near the ships on account of our distance from the open water.

Tues. 11. A brother of Innooksioo's called *Toolooak*, a lad about the same age as our young friend of that name, came to the ships to-day with a severe gash in his leg, accidentally inflicted by his own knife; and the wound proving a deep one and much inflamed, Mr. Edwards recommended his being received into the hospital. Here, however, we had to encounter a fresh series of perverseness; for even his own brother objected to his coming into the same apartment, and it was not without some difficulty that we contrived to get him established there. Innooksioo, upon the whole, however, proved a good and tractable patient enough. Some of his tricks were laughable because quite inoffensive; among which was a habit of endeavouring to excite the compassion of every body that went into the hospital, by complain-

ing of his stomach being empty, his cheeks fallen in, and in short, if his story could be told in plain English, that he was in a fair way to be starved. His daily established allowance of solid meat was at this time from four to five pounds, to which was generally added from one to two or three pounds more as presents from his friends; but even this was not enough to satisfy the cravings of his appetite. Finding, however, that no plea of his could induce Mr. Hooper to depart from the regular system, and that the rest of the Kabloonas received his piteous tale with a laugh, in which by-the-by his wife invariably joined, he at length ceased his unjust and needless solicitations. 1823. February

Some of our people going out to the huts on the 12th, found that Nuyakka had so ill performed his promise respecting Kaga, that he had already dismissed her from his own apartment and, either from decency's or conscience sake, had built her a small one communicating with the passage of his own. Whether the perverse humours of Kaga, or the caprice or inhumanity of Nuyakka had been the occasion of this change, we could not discover; but perhaps each of these had some share in her removal. As, however, she was well clothed with the things she had received from the Hecla, and Nuyakka, as it appeared, still continued to feed her, we could only look on and see how she was to be disposed of. Wed. 12.

On the 15th, some remarkable clouds were hanging over the open water to the eastward, appearing like vast volumes of smoke, curling into rounded and almost circular forms. This peculiarity we never observed at any other time, though there was constantly a "water-sky" in that direction, consisting of a general and diffused darkness, varied occasionally by numerous vertical columns of "frost-smoke." Sat. 15.

On the 19th, Mr. Edwards, on paying a visit to the huts, found a young man named Kooeetseearioo so ill, that he thought it better to risk bringing him in, than to incur, what now appeared almost certain, his dying if he remained at the village. Mr. Edwards afterwards inquired for Kaga, and was shewn into her hut, in which however there was so little light and so contaminated an atmosphere, that he could neither see any person nor breathe the air of the apartment. Having at length succeeded in getting the wretched inmate to look up, though without being able to draw from her any answer to his questions, he found it impossible to continue longer in the hut, and could not therefore ascertain whether she laboured under any specific complaint, though her appearance seemed to indicate that she was now ill, if not utterly abandoned. On the following day, therefore, when I Wed. 19. Thur. 20.

1823. February

went out to bring Kooeetseearioo on board, I made another effort to ascertain this unfortunate creature's real situation; and as soon as I had arranged about the young man's removal, went into Nuyakka's hut, to make inquiries respecting her. On asking his wife to shew me Kaga's apartment, she laughed rather sneeringly, but did not comply with my request; and had it not been for little Shega, who was by at the time and immediately offered herself as my guide, I should not easily have accomplished my object. Being preceded, however, by this good-natured child, I crept on hands and knees through a narrow low passage about ten feet long, at the end of which she pointed still onwards, and producing a knife, brought expressly for the purpose, fell to work in removing a large slab of snow that covered the doorway. Shega then retired, and I with much difficulty pushed myself forward through the low and narrow entrance. The misery which now presented itself to my view was such that, though it will not easily be effaced from my memory, I am at a loss to convey by description any adequate idea of it. The hut was constructed of snow, in the usual form, but without a window; and the light of a miserable single-wicked lamp was just sufficient to intercept the daylight by blackening the roof, to fill the apartment with smoke, and to render the wretchedness as well as "the darkness visible." The diameter of this habitation was about six feet, and its height from four to five. At one end of the bed-place lay the wretched Kaga, with a stream of blood that seemed to have come from her mouth, frozen, together with part of her hair, along the front of the bank of snow that formed the bed-place. After several ineffectual attempts to gain her attention, in the course of which I began to doubt whether she still lived, she at length, with much apparent difficulty, turned her head and exhibited a face which it was scarcely possible to recognise. Her eyes were now much closed, and even the half-smothered flame of a single wick in the lamp near her head seemed oppressive to her sight. In hopes of obtaining some information respecting her bodily complaints, I asked her several questions; but her answers, when she made any, were uttered in so slow and indistinct a tone of voice, that I could not understand a syllable of them. Beginning now seriously to feel the effects of the offensive atmosphere of the hut, which, if the nature of it could be described, would be little less disgusting in the description than in the reality, I was under the necessity of quitting this scene of human wretchedness, which exceeded any thing my imagination could possibly have pictured. On my returning to *Nëiseak*, the

wife of Nuyakka, and reproaching her with the diabolical inhumanity of thus leaving her sister to perish, she made some excuse which I did not understand, but treated the whole matter with a degree of levity and indifference, of which it is painful to think any human creature capable on such an occasion. Placing Kooeetseearioo on my sledge, I now set off for the ships, in no very good humour with the humane qualities of the Esquimaux. 1823. February

On my return on board, strongly impressed with the misery I had just witnessed, I naturally began to consider what could be done to relieve it, and I well knew that I should not want assistance in executing any plan that might with this view be adopted. The difficulties, however, were not a few; for besides the indelicacy of a sick, helpless, and perverse woman being attended solely by men, it would be absolutely necessary to build a separate apartment for her reception, as Innooksioo, we were well aware, would not have remained in the hospital an hour after her admission there. Indeed, it was not without some coaxing, and more threatening, that he would allow Kooeetseearioo to be lodged under the same roof with him. Determined, however, to make an effort to save this unfortunate wretch, who was evidently doomed by her own country-people to a lingering but certain death, a separate hut was erected, communicating with the passage of the hospital, and a volunteer found among the ship's company to attend exclusively to her; while every other necessary arrangement was made for her reception by the officers I have before mentioned as so humanely taking upon themselves this trouble.

On the following day Mr. Crozier went out to bring her on board, and on unroofing the hut to remove her to the sledge found, as we suspected, that she had been robbed of almost every thing. When lodged in her new apartment, where there was light and room to examine her condition, little hope appeared of poor Kaga's recovery; her debilitated state being such as to imply the almost total exhaustion of the vital powers, and her body reduced in the short space of a few days to a mere skeleton. To shorten a story which there is little inducement to prolong, Kaga breathed her last on the following day, which event there would have been no charity in lamenting, determined as her country people were to let her ultimately perish. Nor was her removal to the ships at all to be regretted; for if it were only to give the body a decent and secure burial, something might be considered as thus gained. On examination after death, she was found to have lost every tooth in her upper jaw, and her gums and the roof of her

Frid. 21.

Sat. 22.

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mouth were quite black with disease, so that whatever supplies might latterly have been afforded her she could not eat, and her stomach being quite empty, starvation was probably the occasion of her death. Having publicly made known her death to the Esquimaux, and allowed the body to remain unburied the whole of the following day, to give them an opportunity of doing something towards her burial, we placed her remains in a grave near the observatory, together with her lamp, the only residue of her original property. Not an inquiry was afterwards made about her; and Nuyakka now disclaimed any relationship to her, though he had before asserted that she was his wife's sister, and had at least tacitly admitted her claim upon them, by offering to take her into his hut. Thus perished a young woman not more than three-and-twenty years of age, the victim of the barbarous policy or savage inhumanity of her own countrymen! There is something peculiarly unpleasant in relating facts which degrade and discredit human nature; but he who professes faithfully to delineate the character and disposition of a people, must be careful not to mutilate facts, or to palliate errors, merely for the sake of making a pleasing picture.

Nothing worthy of notice occurred during the rest of February, which month it was gratifying to find presented, as to temperature, a similar anomaly with January, the mean being only − 20°.41, which is probably a high one for this latitude.

March. Mon. 3.

On the 3d of March, the Esquimaux were excluded from the Fury for some hours, on account of a shovel having been stolen from alongside the preceding day. Soon after this, *Oo-oō-took*, a middle-aged man, who had seldom visited the ships, was in Mr. Skeoch's cabin when that gentleman explained to him the reason of his countrymen being refused admittance; upon this he became much agitated, trembled exceedingly, and complained of being cold. There could be no doubt that he thought Mr. Skeoch had dived into his thoughts; for hastening upon deck, he was a minute or two afterwards detected in bringing back the lost shovel from the place where he had buried it behind our wall. A day or two before this occurrence, Captain Lyon had in a manner somewhat similar recovered a knife that had been stolen from him, for which, by way of punishment, the offender was consigned to solitary confinement for some hours in the Hecla's coal-hole. As, however, the Esquimaux only laughed at this as a very good joke, and as the time was shortly coming when numerous loose stores must be exposed upon the ice near the ships, I determined to make use of the

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Igloolik, during the Month of *February*, 1823.

Day	Fahrenheit's Thermometer. Maximum.	Fahrenheit's Thermometer. Minimum.	Fahrenheit's Thermometer. Mean.	Mean Temp. of lower deck.	Barometer. Maximum.	Barometer. Minimum.	Barometer. Mean.	Prevailing Winds. Direction.	Prevailing Winds. Velocity.	Prevailing Weather.
	°	°		°	inches.	inches.	inches.			
1	−12	−24	−17.25	64.5	30.24	30.02	30.153	North	modt.	fine and clear
2	+20	10	+ 8.92	63.5	30.24	30.15	30.178	NNE	strong	drift
3	21	1	13.58	60.5	30.48	30.27	30.380	ENE	modt.	cloudy
4	3	0	1.62	65	30.52	30.49	30.502	NNE	light	cloudy
5	0	13½	− 5.29	63.5	30.50	30.22	30.347	WNW	light	clear
6	−5	15	10.00	63.5	30.18	29.90	30.050	NW	modt.	clear
7	16	24	19.71	63.5	29.84	29.75	29.802	North	light	fine
8	13	23	18.17	66	29.78	29.75	29.760	North	light	cloudy
9	5	16	9.42	66	29.95	29.79	29.850	NW	light	cloudy
10	13	30	24.67	64	30.17	30.01	30.115	Westerly	light	fine and clear
11	7	28	13.25	66	30.16	29.94	30.065	WbN	modt.	hazy
12	9	21	11.79	64	29.88	29.73	29.788	NW	modt.	hazy
13	13	24	18.42	64.5	29.93	29.72	29.875	NNW	light	fine
14	16	28	20.54	. .	29.70	29.62	29.651	NW	modt.	clear and drift
15	22	32	27.08	64.5	29.58	29.33	29.305	West	fresh	cloudy
16	35	43	40.54	63.5	29.36	29.22	29.332	NW	modt.	fine
17	30	42	35.67	63.5	29.59	29.37	29.470	NW	fresh	clear and drift
18	25	40	31.00	63.5	29.76	29.61	29.692	NNW	light	clear
19	31	40	37.90	60	29.79	29.78	29.787	NbE	light	clear
20	18	36	29.00	58	29.74	29.53	29.642	NW	light	fine
21	17	23	20.58	57.5	29.51	29.50	29.502	NW	modt.	clear
22	18	24	20.46	57	29.60	29.45	29.515	NW	modt.	clear
23	24	32	26.75	58	29.74	29.62	29.692	NNW	light	clear
24	24	38	30.88	55.5	29.82	29.75	29.790	NW	light	clear
25	27	39	33.67	56.5	29.82	29.71	29.782	NW	light	fine and clear
26	19	26	21.62	57.5	29.63	29.46	29.528	North	modt.	hazy and drift
27	27	42	34.33	56.5	30.03	29.72	29.915	N. Westerly	lt. vbl. & calms	clear
28	34	43	38.38	55.5	30.01	29.84	29.950	NW	light	fine
	+21	−43	−29.41	61 6	30.52	29.32	29.840			

1823. March. present well-authenticated instance of theft, in trying the effect of some more serious penalty. The delinquent was therefore put down into the Fury's store-room passage, and closely confined there for several hours; when having collected several of the natives on board the Fury, I ordered him to be stripped and seized up in their presence, and to receive a dozen lashes on the back with a cat-o'-nine-tails. The instant this was over, his countrymen called out very earnestly, "Timun, timunna," (That's right, that's right,) and seemed much relieved from the fright they had before been in while the fate of the thief seemed doubtful; but in three minutes after not one of them was to be found near the ships, for they hurried off to the huts as fast as their legs and sledges could carry them. This example proved just what we desired; in less than eight-and-forty hours, men, women, and children came to the ships with the same confidence as before, always abusing Oo-oo-took, pronouncing themselves and us uncommonly good people, but evidently more cautious than before of really incurring our displeasure. The occurrence just related, instead of being placed to the account of these people's bad propensities, rather served to remind us of the rareness of such occurrences, and therefore to furnish fresh proof of their general honesty. It can, indeed, be scarcely doubted, that few if any savages would have withstood so many temptations to dishonesty as these Esquimaux had for months together been exposed to, without a single instance of theft occurring.

This incident explained in some degree the meaning of the custom before mentioned, of stroking down the front of their jackets with the palm of the hand, which we observed them practise here on our first acquaintance. Oo-oo-took did this so frequently at the times when he was most frightened, and also the other Esquimaux during his punishment, that little doubt remained of its being in part meant to imply submission.

Wed. 5. The Esquimaux were about this time rather badly off for food, in consequence of the winds having of late been unfavourable for their fishery; but this had only occurred two or three times in the course of the winter, and never so much as to occasion any great distress. It is certain indeed, that the quantity of meat which they procured between the 1st of October and the 1st of April, was sufficient to have furnished about double the population of working people, who were moderate eaters, and had any idea of providing for a future day; but to individuals who can demolish four or five pounds at

a sitting, and at least ten in the course of a day*, and who never bestow a thought on to-morrow, at least with the view to provide for it by economy, there is scarcely any supply which could secure them from occasional scarcity. It is highly probable that the alternate feasting and fasting to which the gluttony and improvidence of these people so constantly subject them, may have occasioned many of the complaints that proved fatal during the winter; and ont his account we hardly knew whether to rejoice or not at the general success of their fishery. Certain it is, that on a particular occasion of great plenty, one or two individuals were seen lying in the huts so distended by the quantity of meat they had eaten, that they were unable to move, and were suffering considerable pain arising solely from this cause. Indeed it is difficult to assign any other probable reason for the lamentable proportion of deaths that took place during our stay at Igloolik, while, during a season of nearly equal severity, and of much greater privation as to food, at Winter Island, not a single death occurred. Notwithstanding their general plenty, there were times in the course of this winter, as well as the last, when our bread dust was of real service to them, and they were always particularly desirous of obtaining it for their younger children. They distinguished this kind of food by the name of *kănĭbrŏŏt*, and biscuit or soft bread by that of *shĕgălăk*, the literal meaning of which terms we never could discover, but supposed them to have some reference to their respective qualities. 1823. March.

Our lengthened acquaintance with the Esquimaux and their language, which a second winter passed among them afforded, gave us an opportunity Frid. 7.

* Lest it should be thought that this account is exaggerated, I may here state that, as a matter of curiosity, we one day tried how much a lad scarcely full grown, would, if freely supplied, consume in this way. The under-mentioned articles were weighed before being given to him; he was twenty hours in getting through them, and certainly did not consider the quantity extraordinary.

	lbs.	oz.
Sea-horse flesh, hard frozen	4	4
Ditto, boiled	4	4
Bread and bread-dust	1	12
Total of solids	10	4

The fluids were in fair proportion, viz.,

Rich gravy-soup	1¼ pint.
Raw spirits	8 wine-glasses.
Strong grog	1 tumbler.
Water	1 gallon 1 pint.

1823. March. of occasionally explaining to them in some measure in what direction our country lay, and of giving them some idea of its distance, climate, population, and productions. It was with extreme difficulty that these people had imbibed any correct idea of the superiority of rank possessed by some individuals among us; and when at length they came into this idea they naturally measured our respective importance by the riches they supposed each to possess. The ships they considered as a matter of course to belong to Captain Lyon and myself, and on this account distinguished them by the names of *Lyon-oomiak* and *Paree-oomiak;* but they believed that the boats and other parts of the furniture were the property of various other individuals among us; they were therefore not a little surprised to be seriously assured that neither the one nor the other belonged to any of us, but to a much richer and more powerful person, to whom we all paid respect and obedience, and at whose command we had come to visit and enrich the *Innuees*. Ewerat, on account of his steadiness and intelligence, as well as the interest with which he listened to any thing relating to *Kabloonas*, was particularly fit to receive information of this nature; and a general chart of the Atlantic Ocean, and of the lands on each side, immediately conveyed to his mind an idea of the distance we had come, and the direction in which our home lay. This and similar information was received by Ewerat and his wife with the most eager astonishment and interest, not merely displayed in the "hei-ya!" which constitutes the usual extent of Esquimaux admiration, but evidently enlarging their notions respecting the other parts of the world, and creating in them ideas which could never before have entered their minds. By way of trying their inclinations, I asked them if they would consent to leave their own country and, taking with them their children, go to live in ours, where they would see no more *Innuees*, and never eat any more seal or walrus. To all this they willingly agreed, and with an earnestness that left no doubt of their sincerity; Togolat adding in an emphatic manner, "*Shagloo ooagoot nao*" (we do not tell a falsehood,) an expression of peculiar force among them. The eagerness with which they assented to this proposal made me almost repent my curiosity, and I was glad to get out of the scrape by saying, that the great personage of whom I had spoken, would not be pleased at my taking them home, without having first obtained his permission. Information of the kind alluded to was subsequently given to many of the other Esquimaux, some of whom could at length pronounce the name of "King George," so as to be tolerably intelligible.

On the 8th Innooksio, who had quite recovered from his complaint, and had almost regained his former strength and looks, left us for the huts on Nannow's sledge. The impatience of these people to be out in the open air the moment they are free from pain, is always extreme, and constitutes one of the many difficulties of completing their cure. Kooeetseearioo was just at this time suffering from a relapse occasioned by this impatience, to which was now added a new cause of disquietude, produced by the anticipation of Innooksioo's departure, and the fear of sleeping *keseemee* (alone) in the hospital. The apprehensions which he expressed on this subject were so great, that we determined to remove him into our sick-bay, as he was now our only patient; but this was done on condition of his drinking as much lemon-juice as he was desired, some pretty unequivocal symptoms of scurvy having now appeared in him. Innooksioo behaved very well at his departure, thanked some of our gentlemen for their kindness to him with great appearance of cordiality, and in short left us exactly as we could have wished. 1823. March. Sat. 8.

A number of walruses and of the seals of both kinds caught by the Esquimaux about this time, were observed to be with young, which circumstance we had also noticed at the same season the preceding year. Captain Lyon procured the head of a small walrus, remarkable on account of its having *three* tusks, all very short, but two of them close together on the right side of the jaw, and placed one behind the other. On the 12th two families of Esquimaux left Igloolik for *Arlägnuk*, a part of the land to the southward, and near Ping-it-kalik, where the walruses were said to be abundant. Other families soon after removed to this station, towards which the tide of emigration seemed now to be turned, and before the close of March about fifty individuals had fixed their abode there. In these movements necessity may during the winter have considerable share; but in the summer it is perhaps only the love of change, for which most savages are distinguished, that can induce them to leave Igloolik, the shores of which there need be no hesitation in asserting would easily supply a population, even of Esquimaux, ten times greater than theirs with food in profuse abundance. Tues. 11. Wed. 12.

The weather was now so pleasant, and the temperature in the sun so comfortable to the feelings when a shelter could be found from the wind, that we set up various games for the people, such as cricket, foot-ball, and quoits, which some of them played for many hours during the day. There is a certain sallowness in the looks of people living much by candle-light, which was always very perceptible in our officers and men during the winter, but Thur. 13.

1823. March. which wore off generally with the returning spring. The sun now indeed began to be somewhat glaring and oppressive to the eyes on first coming into daylight; and before the end of March some crape was issued to be worn as veils, a protection of which most persons were already glad to avail themselves. A thermometer exposed to the sun on the south side of the observa-
Frid. 14. tory on the 14th, indicated +18°, while another suspended freely without any shelter from the wind, stood at *zero*, that in the shade being at − 9° at the time.

Mon. 17. The mercury in the barometer rose to 30.84 inches at ten P.M. this day, being nearly the highest indication of this instrument we had ever registered in the polar regions *. This occurred with light winds between the north and east and a clear sky, except about the western horizon, over which a dense darkish cloud hung during the whole day. At night indeed, when the mercury stood the highest, we experienced for the first time this season a dense fog, which for several hours obscured objects at the distance of two or three hundred yards. The mercury fell very gradually from this time, but so slowly that it had not reached thirty inches till noon on the 22d, during the whole of which time we enjoyed delightful weather.

Wed. 19. Mr. Mogg having accompanied some of the Esquimaux on their fishing excursion to the margin of the land-ice, in hopes of shooting some dovekies which they reported to be numerous there, found that a floe of young ice too weak to bear their weight, had lately formed so as to prevent their getting to the water. A number of sea-horses being seen on the sea-ice beyond this, the Esquimaux in their anxiety to approach them, as a last resource, tried the strength of the ice by putting a young dog upon it, by which they nearly drowned the little animal, without at length succeeding in their endeavours.

On the 21st a woman named Ootooguak, who had been brought to the hospital in a very weak state, and had been gradually sinking for some days past, died, without struggle or apparent pain of any kind. A short time before her death, of the approach of which both she and her husband were well aware, she took Mr. Skeoch's hand, and grasping it between hers with all the strength she then possessed, pressed it to her lips as an evident acknowledgment of his attention to her. There is something peculiarly affecting in such an acknowledgment at a moment like this. Ootooguak had she

* The mercury stood at 30.86 inches at Melville Island, on the 27th of April, 1820.

recovered would, it is to be feared, never have evinced her gratitude in so feeling and unequivocal a manner; but when death drew near, and the things of the world began to lose their value, the better feelings of our common nature at once gained the ascendancy, and the selfishness of the savage character was lost in the awfulness of the approaching crisis. Her husband who observed her take Mr. Skeoch's hand, and had throughout her illness watched her with unremitting attention, was much affected by this last act of his wife, and with many tears earnestly repeated his own thanks. An hour or two before her death, he came over to the ships for his two boys, one of whom was their real, and the other their adopted, son, and taking them into the hospital told them that their mother was dying. The boys then joined their father in crying for a few minutes, after which they went out to play with their usual cheerfulness, and with equal indifference. As soon as she was dead her husband put all her clothes on her, and then agreed to our proposal of sewing the body up in a hammock, the face only being left uncovered by his desire. He also consented to her being buried on shore, for which purpose his two brothers came at an early hour on the following day, and with many expressions of acknowledgment, attended to the arrangements for the burial. These consisted only in the body being placed on a sledge, and drawn to the grave by men; though no request was made for the dogs to be tied up or put out of the way, as had been the case in a former instance. The husband alone accompanied us to the grave over which, as soon as the body was deposited, he was thankful to have some staves placed, to prevent any weight resting immediately upon it. He next laid on large slabs of snow, after which he had no objection to our people throwing on stones and earth; which shews that their principal care is to avoid loading the body with any weight. Nothing was deposited in or near the grave but a pair of her spare boots, which were laid upon the body near the head. He came frequently afterwards to visit the grave, at an interval of several days each time, and generally walked round it once, sometimes muttering a few words and at others in silence, but never appearing to be much affected: this custom is attended to with scrupulous care, and is evidently connected with some superstitious notion that renders it indispensable in their eyes. This man also expressed great anxiety about his living three days at the ship after his wife's death and, within an hour after that time was accomplished, went away satisfied and in good spirits. The custom of not using sledges and dogs for five days after such an event, which is certainly considered decent

1823. March. Frid. 21.

Sat. 22.

1823. March. and proper, is not always strictly attended to; for several went out to the fishery the day following Ootooguak's death, and one or two came to the ships within three days. Some individuals, notwithstanding the serious inconvenience of this practice, adhered to it more scrupulously, and Toolemak could by no means be prevailed on to part with a dog for which I had bargained, till the five days were completed. When however there are no relatives at hand to observe the practice, as in the case of the unfortunate Kaga, it is altogether neglected; so that its non-observance is only perhaps considered to affect the dead, without having any influence over the living.

Messrs. Crozier and Ross, having spent one or two days in accompanying some of the Esquimaux on their fishing excursions, found that the same floe of "young" and weak ice as before still opposed an insuperable obstacle to the catching of walruses. Mr. Ross succeeded in killing a single dovekey, which proved extremely curious from the whiteness of its plumage. It was probably on account of the present unfavourable state of the ice for the walrus-fishery, that several other families removed, before the end of March, to *Pingitkalik*, where these animals were equally abundant, and more easily procured; for the Esquimaux do not acknowledge the truth of our English proverb, that "enough is as good as a feast." Previously to their
Wed. 26. departure, several of them, with their usual cunning, paid two or three "last visits" to the ships on as many successive days, having found by experience that some extra presents were made them on such occasions. We heard about this time of a child six or seven years of age having recently been drowned, by accidentally falling into a hole in the ice made for soaking their seal-skins.

At the close of the month of March we were glad to find that its mean temperature, being $-19^{\circ}.75$, when taken in conjunction with those of January and February, appeared to constitute a mild winter for this latitude. There were besides, some other circumstances which served to distinguish this winter from any preceding one we had passed in the ice. One of the most remarkable of these was the frequent occurrence of hard well-de-
Frid. 28. fined clouds, a feature we had hitherto considered as almost unknown in the winter-sky of the polar regions. It is not improbable, that these may have in part owed their origin to a large extent of sea keeping open to the south-eastward throughout the winter, though they not only occurred with
Mon. 31. the wind from that quarter, but also with the colder weather usually accompanying north-westerly breezes. About the time of the sun's re-appearance,

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and for a week or two after it, these clouds were not more a subject of admiration to us on account of their novelty, than from the glowing richness of the tints with which they were adorned. It is indeed scarcely possible for nature, in any climate, to produce a sky exhibiting greater splendour and richness of colouring than we at times experienced in the course of this spring. The edges of the clouds near the sun often presented a fiery or burnished appearance, while the opposite side of the heavens was distinguished by a deep purple about the horizon, gradually softening upwards into a warm yet delicate rose-colour of inconceivable beauty. These phenomena have always impressed us the most forcibly about the time of the sun's permanent setting, and that of his re-appearance, especially the latter, and have invariably furnished a particular subject of conversation to us at those periods; but I do not know whether this is to be attributed so much to the colouring of the sky exactly at the times alluded to, as to our habit of setting on every enjoyment a value proportioned to its scarceness and novelty. Besides the colouring of the clouds just mentioned, I also observed five or six times, in the course of the spring, those more rare and delicate tints to which allusion has already been made in this Narrative, and twice in that of the preceding voyage. This peculiarity, in which I now observed no difference from those of the same kind before described, would probably have been oftener seen but for the glare of the sun upon the eyes in viewing an object so near it. Perhaps it has also been seen in other climates; here it is, I believe, most frequent in the spring, and I have never noticed it after the summer temperature has commenced. 1823. March.

Shortly after the sun's re-appearance, it not unfrequently happened about noon that a part of the low shore to the southward of the ships appeared, by the effect of refraction, to be raised and separated, forming a long narrow streak of a dark colour, like a cloud, suspended a few minutes above the land, in a position nearly horizontal.

Parhelia and imperfect halos very often occurred in the spring, their angular distance from the sun being from 22° to 23°, but having nothing remarkable either in form, situation or colours, to need a separate description on each occasion. It was sometimes observable however, that though parhelia appear to an observer placed nearly on a level with the sea, to be at a considerable distance from the eye, they are found, on ascending a little eminence, to be produced on some medium comparatively close, perhaps only from one to two miles distant. In this case the land or other

1823. March. distant objects may be seen over them, though there is near them always a mistiness to which they perhaps owe their origin. Although however the winter atmosphere of these regions is seldom free from numberless minute particles of snow, which are abundantly deposited upon any thing left in the open air, yet it was not observable, except in some cases of snow-drift, that parhelia were more frequent or distinct when this deposit was the greatest, than when the atmosphere was comparatively clear, though in the latter case they are always to appearance most distant. Parhelia occur most frequently, and exhibit the greatest intensity of light, at low altitudes of the sun. This is often particularly observable in the short days, when these phenomena assume a very brilliant appearance soon after sunrise, decrease in splendour towards noon, and resume their brightness as the sun descends towards the horizon; continuing however distinctly visible the whole time, and being sometimes accompanied by a more or less perfect halo undergoing corresponding variations.

Another peculiarity observed in this winter was the rare occurrence of the Aurora Borealis, and the extraordinary poorness of its display whenever it did make its appearance. It was almost invariably seen to the southward, between an E.S.E. and a W.S.W. bearing, generally low, the stationary patches of it having a tendency to form an irregular arch, and not unfrequently with coruscations shooting towards the zenith. When more diffused it still kept, in general, on the southern side of the zenith; but never exhibited any of those rapid and complicated movements observed in the course of the preceding winter, nor indeed any feature that renders it necessary to attempt a particular description. The electrometer was frequently tried by Mr. Fisher, at times when the state of the atmosphere appeared the most favourable, but always without any sensible effect being produced on the gold leaf.

The difference in the temperature of the day and night began to be sensible as early as the first week in March, and the daily range of the thermometer increased considerably from that time. The increase in the average temperature of the atmosphere, however, is extremely slow in these regions, long after the sun has attained a considerable meridian altitude; but this is in some degree compensated by the inconceivable rapidity with which the days seem to lengthen when once the sun has re-appeared. There is indeed no change which continues to excite so much surprise as that from almost con-

stant darkness to constant day; and this is of course the more sudden and striking in proportion to the height of the latitude. Even in this comparatively low parallel the change seemed sufficiently remarkable; for soon after the middle of March, only ten weeks after the sun's re-appearance above the horizon, a bright twilight appeared at midnight in the northern heavens. 1823. March.

The annexed abstract contains a comparative view of the mean temperature of the atmosphere during six months of each of the three winters passed in the polar regions, by this and the preceding Expedition.

Months.	Mean temperature of the Atmosphere at			REMARKS.
	Melville Island, lat. 74½°, 1819-20.	Igloolik, lat. 69½°, 1822-23.	Winter Island, lat. 66½°, 1821-22.	
October	− 3°.46	+ 12°.79	+ 12°.51	The "corrected temperature" in the lower line of each column of this Table is the "registered temperature" with a deduction of 3° for the warm atmosphere of the ship.
November	− 20.60	− 19.37	+ 7.75	
December	− 21.79	− 27.80	− 12.94	
January	− 30.09	− 17.07	− 22.96	
February	− 39.19	− 20.41	− 24.97	
March	− 18.10	− 19.75	− 11.64	
Mean registered temperature	− 21.04	− 15.27	− 8.71	
Mean corrected temperature	− 24	− 18.3	− 11.7	

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Igloolik, during the Month of *March*, 1823.

Day	Fahrenheit's Thermometer.			Mean Temperature of Lower Deck.	Barometer.			Prevailing Winds.		Prevailing Weather.
	Maximum.	Minimum.	Mean.		Maximum.	Minimum.	Mean.	Direction.	Velocity	
	°	°	°	°	inches	inches	inches			
1	-32	-39	-36.58	53.5	29.80	29.70	29.733	NW	modt.	fine
2	31	41	35.70	52.5	29.75	29.70	29.725	West	light	fine
3	30	40	36.54	51	30.07	29.81	29.930	West	light	fine and clear
4	32	40	36.75	49.5	30.10	30.02	30.088	NW	modt.	fine
5	26	36	32.08	51	29.97	29.64	29.747	NW	fresh	cloudy
6	18	30	23.67	49.5	29.81	29.63	29.723	West	strong	hazy, drift
7	20	30	25.33	50	30.13	29.83	30.003	NW	light and squally	fine
8	16	30	22.17	52.5	30.15	30.00	30.100	SW	light	fine
9	9	25	19.42	53	29.94	29.80	29.863	North	light	cloudy
10	15	28	23.42	54.5	29.97	29.81	29.878	North	light	cloudy
11	23	34	28.33	54	30.01	29.99	29.997	NW	modt and squally	clear
12	17	33	26.08	53.5	30.00	29.96	29.975	NW	light	fine
13	9½	29	14.71	54.5	29.93	29.85	29.890	SW	light	hazy
14	6	22	13.29	56	29.94	29.82	29.858	West	light	fine
15	13	26	19.29	58	30.21	29.89	30.027	NWbN	light	hazy and small snow
16	18	29	21.67	59	30.63	30.30	30.503	North	light	fine
17	14	26	18.58	59.5	30.84	30.67	30.762	North	light	A.M. fine P.M. foggy
18	14	29	21.50	59.5	30.79	30.58	30.706	North	light	fine
19	5	23	15 17	60.5	30.58	30.20	30.377	Northerly	light	fine
20	3	21	11.42	61	30.15	30.06	30.107	NNW	light	fine
21	3	13	9.08	59.5	30.10	30.05	30.075	NW	light	fine
22	+1	15	8.71	60.5	30.09	29.90	29.990	NNW	modt.	clear
23	-7	16	10.54	63	29.88	29.78	29.812	WNW	fresh and squally	drift
24	+2	15	8.67	58.5	30.02	29.80	29.932	WNW	light	clear
25	4	15	5.88	60.5	30.05	29.80	29.913	West	light	cloudy
26	-1	22	12.21	61	29.92	29.80	29.902	West	light	hazy, snow at times
27	1	19	10.08	62.5	30.03	29.97	30.00.	NE	modt.	hazy and snow
28	11	26	18.46	58	30.03	29.91	29.960	NW	light	fine
29	12	27	18.71	58.5	29.97	29.91	29.955	NW	light	fine
30	6	25	15.92	60.5	30.12	30.05	30.082	NW	light	fine
31	2	23	14.08	61	30.29	30.15	30.230	NNW	light	fine
	+4	-41	-19.75	56 6	30.84	29.63	30.028			

CHAPTER XIV.

VARIOUS JOURNEYS TO THE ESQUIMAUX STATIONS—ILLNESS AND DECEASE OF MR. ALEXANDER ELDER—PREPARATIONS FOR THE HECLA'S RETURN TO ENGLAND—REMARKABLE HALOS, *&c.*—SHOOTING PARTIES STATIONED AT ARLAGNUK—JOURNEYS TO QUILLIAM CREEK—ARRIVAL OF ESQUIMAUX FROM THE NORTHWARD—ACCOUNT OF A JOURNEY TO THE WESTWARD FOR THE PURPOSE OF REACHING THE POLAR SEA—THE ESQUIMAUX REPORT TWO FISHING-SHIPS HAVING BEEN WRECKED—A JOURNEY PERFORMED TO COCKBURN ISLAND—DISCOVERY OF *MURRAY MAXWELL INLET.*

1823. April. Tues. 1.

WHATEVER hopes of an unusually mild winter might have been excited by the mean temperature of some of the preceding months, the comparative view exhibited in the foregoing table, for a longer period of each winter that we had passed in these regions, did not seem to hold out at present a prospect of any thing extraordinary. It could indeed have been scarcely anticipated that our journals would have registered so progressive a decrease of mean temperature, in proportion to the height of our latitude as that here given; and this circumstance may perhaps be considered as intimating that though in small intervals of time, such as particular and corresponding months, considerable differences may occur in this respect, yet that in longer periods the averages will be found to coincide more nearly:—that nature, in short, though ever varying in detail, still preserves her general uniformity; and that when any considerable deviation from her usual course has taken place on one side, she struggles to maintain the balance by some extraordinary compensation on the other.

On the 1st of April Captain Lyon went out on his sledge to the distant station of the Esquimaux, which he found to be situated eight or nine miles to the westward of Tern Island, and consisting of five snow-huts built upon the ice; the people, who were twenty-eight in number, living almost independently of the open water, by catching the *neitiek* in its hole in the manner already described. They were at this time abundantly furnished with food,

1823. April. and were chiefly clad in seal-skin dresses. Among them were two young men who were invalids, one of whom was slowly recovering from an illness occasioned by excessive eating, and the other had just fallen sick from the same cause, but was relieved by bleeding.

Wed. 2. Captain Lyon returning to the ships on the 2d, and old Nannow with a party of other Esquimaux arriving from Pingitkalik at the same time, I lodged the latter in my cabin, and on the following day accompanied them on their return home; one or two other families also setting off from Igloolik to join their companions to the southward. I found the Esquimaux situated about twenty-three miles to the southward and eastward of the ships; the huts being built upon the ice in immediate contact with the beach, and the open water, in which they killed walruses for their subsistence, being distant from them about three miles. The quantity of meat in the huts at this time was so great, that I never remember to have seen it more abundant, even in the summer; and two more walruses were killed during my stay there. Nannow and all his household behaved to us with a degree of kindness and genuine hospitality which nothing could surpass. Indeed the old man seemed to be only apprehensive that he could not do enough for me, and fidgetted about the whole evening in preparing my bed and repairing my dogs' harness, while his wife was mending my boots. Every now and then this worthy creature kept calling his own "igloo" bad, and mine good; and in the morning he offered me, I believe, in turn, every article belonging to him in return for the presents which I had made him.

Frid. 4. In returning on board on the 4th we got out of the road, which was nearly covered with a heavy snow drift that was flying at the time. We were therefore obliged to trust entirely to the instinct of the dogs; and these sagacious creatures landed us close to the bone-huts at Igloolik, after travelling for more than three hours without seeing a single object at a greater distance than two or three hundred yards around us,

About the first and second weeks in April, the Esquimaux were in the habit of coming up the inlet, to the southward of the ships, to kill the *neitiek* or small seal which brings forth its young at this season, and probably retires into sheltered places for that purpose *. Besides the old seals which were

* "The *netsek* is the only species of seal which remains in the winter under the ice. They form in it large caverns, in which they bring forth their young, two at a time, in March. More than one cavern belongs to one seal, that he may if disturbed in the first, take shelter in the second. No other seal is caught in winter by the Esquimaux" (in Labrador.)—*Journal of a Voyage to Ungava Bay by the Missionaries of the Unitas Fratrum*, p. 36.

taken in the manner before explained, the Esquimaux also caught a great number of young ones by fastening a hook to the end of a staff, and hoisting them up from the seal-hole after the mother had been killed. Our large fish-hooks were useful to them for this purpose, and the beautiful silvery skins of these young animals were occasionally brought to the ships as articles of barter: those of the fœtus of the *neitiek* are more yellow than the others, and indeed both in colour and texture very much resemble raw silk. 1823. April.

We could at this season just make out that a stone was here and there more perceptible on shore than during the winter, owing to the tops of them being uncovered by the sun's rays; but this was the only change that could be observed. We had frequent occasion to notice about this time that a copious deposit of snow-crystals, of a large size, and of a beautiful arborescent form, took place every night, as soon as the temperature of the atmosphere fell some degrees below that of the day, just as the dew falls in temperate climates. On the 13th a grouse was observed upon the rubbish-heap alongside the Hecla. Tues. 8. Sun. 13.

It is now once more my painful duty to record an afflicting visitation of Providence which took place among us on the morning of the 15th, in the death of Mr. Alexander Elder, Greenland mate of the Hecla. He had complained, on several different occasions in the course of this and the preceding winter, of pulmonary affections, to which perhaps a full habit of body may in some degree have contributed. His disease was now, however, a confirmed dropsy, which having attacked the region of the heart, rapidly terminated his existence. Mr. Elder had served in the three successive Expeditions employed for the discovery of a North-West Passage, and as a reward for his good conduct, had been raised from the situation of leading-man to that of mate, in which last capacity he served both in the Griper and the Hecla. He died much regretted by many of the officers and men, who had known him several years, and by none more deeply than by myself. Most sincerely indeed do I lament the occasion which demands from me this tribute, due to the memory of an active and valuable seaman, as well as an honest and upright man. His remains were committed to the ground near the Observatory, with all the solemnity that the occasion demanded, and a tomb of stones, with a handsome tomb-stone, raised over the grave. Tues. 15. Thur. 17.

The first ducks noticed by the Esquimaux were mentioned to us on the 16th, and a few days afterwards immense flocks appeared, all of the king-

1823. April. duck species, about the open water near the margin of the ice; but our distance from this was so great that we never saw any of them, and the weather was yet too cold to station a shooting party in that neighbourhood. Dovekies were now also numerous, and a gull or two of the silvery species had been seen.

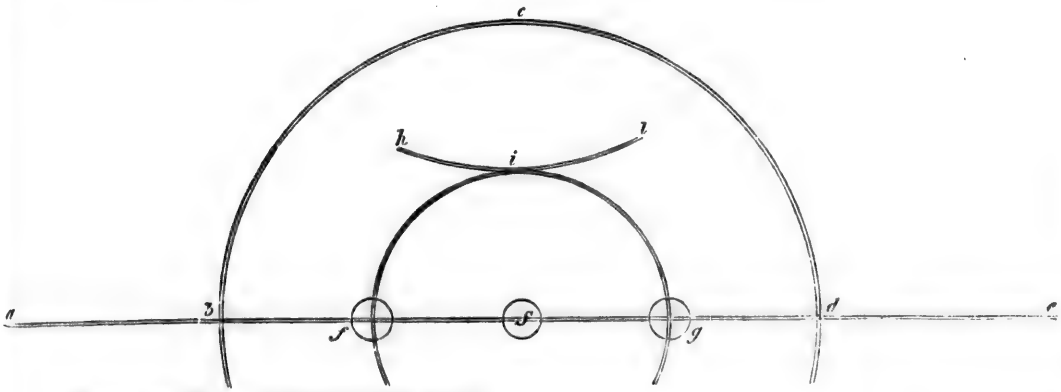
Sun. 20. On the 20th after divine service, I took the opportunity of Captain Lyon and his people being on board the Fury, to communicate to the assembled officers and ship's companies my intentions respecting the future movements of the Expedition; at the same time requesting Captain Lyon to furnish me with a list of any of the Hecla's men that might volunteer to remain out, as it would be necessary to fill up, or perhaps even to increase the complement of the Fury.

Our preparations were therefore immediately commenced, a twelve months' provision and other stores being received by the Fury, and various necessary exchanges made in anchors, cables, and boats; and in the course of a single fortnight the whole of these were transported from ship to ship without any exposure or labour to the men outside their respective ships, our invaluable dogs having performed it for us with astonishing ease and expedition. It was a curious sight to watch these useful animals walking off with a bower-anchor, a boat, or a topmast without any difficulty; and it may give some idea of what they are able to perform to state, that nine dogs of Captain Lyon's dragged sixteen hundred and eleven pounds a distance of seventeen hundred and fifty yards in nine minutes, and that they worked in a similar way between the ships for seven or eight hours a day. The road was, however, very good at this time, and the dogs the best that could be procured.

Mon. 21. On the 21st Koo-eet-see-arioo, who had for a fortnight past been in a sad fidget about going away, and who had now no complaint but debility, at length took his departure. He was fortunate in leaving us at a time of the year when exposure to the air was of comparatively little importance, and he subsequently recovered his health sufficiently to resume all his occupations. I regret to add that the case was different with our late patient Innooksioo, who, having suffered a relapse when at a distance from us, died about this time, as we were afterwards informed by the other Esquimaux. His widow, Amlo-tooinyak, was well taken care of, living in old Nannow's hut for some time, and shortly after becoming the second wife of Ootooguak, one of his sons.

It is certain, however, that for some time she was nearly common to every body, and it was said to be in consequence of a suggestion made on board the ships, that she became the acknowledged wife of Ootooguak. 1823. April.

On the evening of the 24th, the thermometer being at +6°, some halos and parhelia appeared about the sun, which the annexed figure will best describe. This was the only phenomenon of the kind particularly worthy of notice that occurred during the spring. Thur. 24.



S, the sun, eight to ten degrees above the horizon.

a, *e*, A horizontal circle of white light, passing through the sun and parhelia; upon this appea red at times a large white spot, exactly opposite to the sun in the heavens.

f, *g*, Parhelia situated upon the inner halo *f*, *i*, *g*, of which the radius was 22° 20′.

h, *i*, *l*, Part of an inverted circle, touching the upper part of the halo *f*, *i*, *g*, and sometimes assuming the form of a bow.

b, *c*, *d*, An outer halo, much more brightly tinged with the prismatic colours than the inner one; its radius 48°.

The wind settling to the southward for a few days near the end of April, brought an increased and, to us, a comfortable degree of warmth; and it was considered an event of some interest, that the snow which fell on the 29th dissolved as it lay on our decks, being the first time that it had done so this season. We now also ventured to take off some of the hatches for an hour or two in the day, and to admit some fresh air, a luxury which we had not known for six months. The Esquimaux about this time began to separate more than before, according to their usual custom in the spring; some of them, and Tues. 29.

1823. April. especially our Winter Island acquaintance, setting off to the little islands called Ooglit and those in our neighbourhood removing to the north-east end of Igloolik, to a peninsula called *Keiyuk-tarruoke*, to which the open water was somewhat nearer. These people now became so much incommoded by the melting of their snow huts, that they were obliged to substitute skins as the roofs, retaining however the sides and part of the passages of the original habitations. These demi-tents were miserable enough while in this state, some of the snow continually falling in, and the floor being constantly wet by its thawing.

May. Frid. 2. On the 2d of May several of our gentlemen accompanied the Esquimaux to the open water, to endeavour to procure some ducks, large flocks of which were flying about there; but a quantity of "young" ice prevented their approaching them. In walking out with the wind blowing against them from the sea to the eastward, they found their faces covered with salt, the thermometer being from +11° to +17° during the day.

Thur. 8. Accustomed as we had been to the rapidity of the changes produced by warmth when it does begin to operate in these climates, we still could not help being surprised at the alteration which a few days of temperate weather in the beginning of May effected in the appearance of the land, many of the ridges being almost entirely clear of snow, and every hour discovering some fresh spots of dark ground. The deception occasioned by one unvaried and extensive surface of white was now also once more perceptible, principally in making the neighbouring lands appear much nearer than before, and discovering the hills and valleys; whereas in the winter all was blended together, so as to give no idea of the true distance of the land or of its various undulations. Another change which we have invariably remarked to take place in the spring, was now daily more and more observable; this consisted in the distinctness with which distant lands might be seen, or rather in those parts of the coast coming in sight which we had *never* seen during the winter. It is most certain indeed that, notwithstanding all that has been said of the superior transparency of the winter atmosphere in these regions, there is none less clear for viewing either celestial or terrestrial objects, which fact will I believe become apparent to any person putting it fairly to the test. At eleven P.M. we had a thick fog, which lasted for a couple of hours, and another for a short time on the 10th. Upon the spots that were bare of snow on shore we now observed numerous caterpillars, of the same kind as those found in equal abundance, and at the same time of the

Sat. 10.

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Igloolik, during the Month of *April*, 1823.

Day	Fahrenheit's Thermometer. Maximum.	Minimum.	Mean.	Mean Temp. of lower-deck.	Barometer. Maximum.	Minimum.	Mean.	Prevailing Winds. Direction.	Velocity.	Prevailing Weather.
	°	°	°	°	inches	inches	inches			
1	− 6	−20	−11.42	+61.5	30.29	30.18	30.257	NNW	light	fine
2	+ 5	15	6.04	61.0	30.16	29.94	30.053	A.M. N P.M. NNW	light	fine
3	2	16	6.17	60.5	29.97	29.70	29.832	NNW	fresh	fine
4	0	9	3.92	61.5	29.66	29.54	29.593	NW	fresh	cloudy and drift
5	− 2	13	8.33	61.0	29.69	29.50	29.582	WNW	fresh	hazy and drift
6	8	21	13.92	62.0	29.80	29.70	29.756	NW	modt.	fine
7	6	25	15.38	61.5	29.98	29.85	29.927	NW	light	fine
8	+ 4	21	8.42	61.0	30.24	29.97	30.112	NW	light	fine
9	11	13	+0.96	61.5	30.28	30.12	30.223	WSW	light	cloudy
10	12	15	3.00	63.5	30.16	30.05	30.107	West	fresh	cloudy and drift
11	12	20	−3.92	62.0	30.16	30.12	30.148	WSW	light	fine
12	9	16	0.67	66.5	30.39	30.02	30.225	NNW	light	cloudy
13	17	22	8.12	64.0	30.40	30.37	30.390	West	light	fine
14	2	23	13.33	63.0	30.37	30.05	30.210	North	light	fine
15	− 6	25	15.04	56.5	29.94	29.70	29.808	NNW	fresh	fine
16	+ 5	17	7.12	56.5	29.70	29.68	29.695	NW	fresh	clear and drift
17	11	14	0.83	54.0	29.70	29.58	29.642	NW	strong	drift
18	15	2	+7.58	60.0	29.80	29.52	29.647	NW	strong	cloudy and drift
19	2	15	−5.42	58.5	30.03	29.88	29.962	North	light	fine
20	15	14	Zero.	58.0	29.95	29.74	29.830	WSW	light	cloudy
21	8	14	−3.50	59.0	30.10	29.85	29.960	North	light	fine
22	13	9	+3.17	57.5	30.20	30.15	30.188	West	light	fine
23	15	4	4.42	67.5	30.17	30.05	30.104	North	light	cloudy and small snow
24	9	6	2.33	66.5	29.98	29.88	29.913	NNW	modt.	clear
25	13	2	6.00	66.0	29.98	29.90	29.938	NNW	modt.	hazy and snow
26	14	8	3.50	66.0	30.08	30.00	30.057	NW	fresh, sqls.	clear
27	26	3	9.75	67.5	30.12	30.10	30.103	SE	light and variable	hazy and snow
28	26	+ 8	17.42	68.5	30.13	29.83	29.957	South	a.m. light p.m. fresh	clear
29	32	3	18.92	70.0	29.88	29.78	29.817	NNW	light	hazy and snow
30	11	− 6	4.17	65.0	30.10	29.95	30.042	NW	fresh	clear
	+32	−25	−1.68	62.2	30.40	29.50	29.969			

1823. May. year at Winter Island. The late mild weather having become an inconvenience to Mr. Fisher at the Observatory, owing to the thaw that was going on around it, we now pitched a tent for the reception of the instruments, and Mr. Fisher's clock was soon after set up in it.

Mon. 12. Among other useful purposes to which our dogs were put, they afforded an opportunity of trying, on a more extensive scale than had before been done at Winter Island, the experiment of laying sand upon the ice in order to assist its dissolution. The sledge was therefore employed daily for a fortnight in bringing sand from the shore, and lightly covering the ice with it in the direction of the open sea. The space thus covered was twenty-four feet in width, a narrow line having been before found to cover itself very frequently with drift, and the extent accomplished was about two-thirds of a mile. The effect produced by this will be mentioned hereafter.

Wed. 14. Towards the middle of May, ten individuals of the Esquimaux who were strangers to us, consisting of three men, four women, and three children, arrived from *Peelig*, a station represented by them to be from six to ten days' journey from Igloolik, but of whose situation we could never obtain any very satisfactory information. A man named *Toolooak*, being the fourth individual of our acquaintance distinguished by that favourite appellation, came to the ships on the 14th, accompanied as usual by some of the others to introduce him. It appeared from what these people said, that the Esquimaux at Peelig had received no intimation of our being here; so that none of the others had gone that way since our arrival: we gained no information of interest from the newly-arrived party. The parts of the land which had been uncovered were now once more hidden from us by a fresh coat of snow, and indeed the whole prospect had resumed, in every respect, its winter appearance.

Mon. 19. Some of our gentlemen, on going out on the 19th to Arlagnuk, where a part of the Esquimaux still remained, found that that the open water had now approached the shore there within three-quarters of a mile, and that the ducks were more numerous than before. They succeeded in killing some of these, and *Ooyarraseo*, who proved a most active, intelligent, and obliging young man, immediately carried down his canoe to try to pick them up, but without success, the swell being so considerable at the margin of the ice that, though he managed to launch her, he could not steady her sufficiently to get into the hole. He explained at the same time, that in such cases, and when very desirous of getting out, they sometimes lash two

canoes together, to give the requisite stability. Some long-tailed ducks were noticed by the Esquimaux on the 21st, at which time some silvery gulls were more frequently seen than before, but they were not numerous. On the 22d the Esquimaux observed, for the first time this season, the tracks of two deer; and the snow-buntings, which are usually some of the earliest visitants to these reigions in the spring, began now to appear in flocks; but it was seldom that a stray bird of any kind was to be seen in the neighbourhood of the ships. 1823. May. Wed. 21. Thur. 22.

On the 26th, Captain Lyon went out on his sledge to Arlagnuk, and succeeded in killing fourteen pair of king-ducks, a part of which only the Esquimaux, who picked them up in their canoes, thought proper to return, secreting the rest for their own use. Finding that nothing but a boat was wanting to ensure us a supply of ducks from time to time, we now sent a party with an officer, and our small boats from each ship, these being carried on sledges to Arlagnuk, where our shooting-parties were established close to the open water, which extended from thence to the south-eastward, as far as the eye could reach. Mon. 26.

Favourable as the first part of the month of May had appeared with respect to temperature, its close was by no means equally promising, and on the 1st of June, at two A.M., the thermometer stood at +8°. This unusually low temperature, much exceeding in severity any thing we had experienced at Melville Island at the same season, rendered it necessary to defer for a time a journey which it was proposed that Captain Lyon should undertake, across the land to the westward at the head of Quilliam Creek, and thence, by means of the ice, along the shores of the Polar Sea, in the direction towards Akkoolee. The object of this journey, like that of most of the others which had been performed in various directions, was to acquire all the information within our reach, of those parts of the continental coast to which the ships were denied access; and it was hoped that at the coming season some judgment might be formed of the probable state of the ice along that shore in the summer, by which the future movements of the Fury might be influenced. Captain Lyon was to be accompanied by two men, and a complete supply of every kind for a month's travelling was to be drawn on a sledge by ten excellent dogs, which he had taken great pains to procure and train for such occasions. As I was desirous of ascertaining beyond any doubt the identity of the *Khemig*, to which I had sailed in the autumn, with that seen by Captain Lyon on his journey with the Esquimaux, I determined June. Sun. 1.

IMAGE EVALUATION
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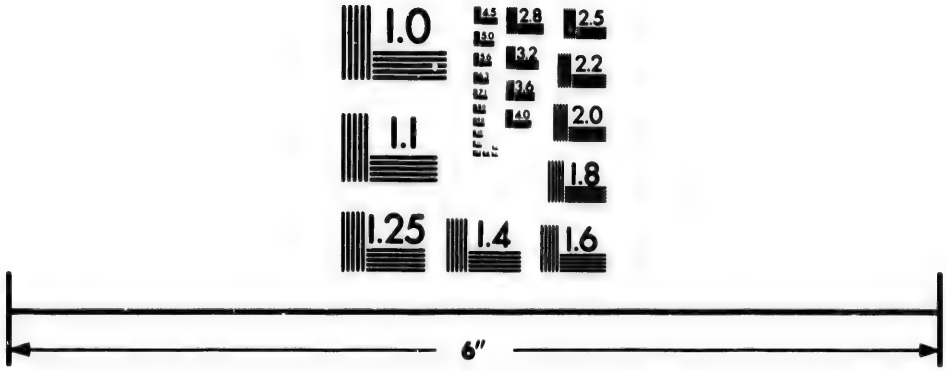

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ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Igloolik, during the Month of *May*, 1823.

Day	Fahrenheit's Thermometer.			Barometer.			Prevailing Winds.		Prevailing Weather.
	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Direction.	Velocity.	
	°	°	°	inches	inches	inches			
1	+17	− 8	+ 5.33	30.08	29.99	30.022	West	light	cloudy
2	17	+ 5	11.33	30.03	29.86	29.975	NE	modt.	cloudy
3	17	4	10.92	30.03	29.90	30.000	NNE	fresh	cloudy
4	34	12	25.42	29.89	29.52	29.647	NE	strong	constant snow
5	37½	11	23.96	30.07	29.74	29.965	South	modt.	cloudy
6	40	20	32.00	29.97	29.91	29.925	NE	light	snow
7	30	31	34.75	30.17	29.93	30.038	ESE	fresh	cloudy and snow
8	46	31	36.62	30.45	30.24	30.362	ESE	modt.	cloudy
9	45	30	38.12	30.47	30.43	30.448	SW	light	cloudy
10	32	26	30.00	30.43	30.40	30.412	SW by West to NW	light	cloudy and snow
11	37	22	29.96	30.37	30.27	30.322	NWesterly	modt.	cloudy
12	28	22	24.25	30.22	30.07	30.140	NW	fresh	cloudy
13	23½	11	20.00	30.10	30.01	30.042	NW	modt.	fine
14	36	9	23.46	30.00	29.80	29.808	WSW	light	cloudy and snow
15	40	22	30.79	29.77	29.61	29.725	South	light	hazy and small snow
16	26	16½	21.20	29.55	29.38	29.488	North	strong	cloudy and snow
17	29½	17	23.12	29.79	29.54	29.687	Northerly	modt.	fine
18	25	14	20.25	29.80	29.70	29.702	NNW	fresh	fine and drift
19	27	6	18.42	29.77	29.72	29.735	NNW	fresh	clear
20	28	9	17.58	29.73	29.63	29.600	WbS	modt.	fine
21	21	14	18.00	29.61	29.58	29.593	NNW	strong	cloudy
22	33	14	22.12	29.57	29.54	29.550	SE	light	hazy and snow
23	33	20	26.17	29.60	29.52	29.612	SE	light	snow
24	34	23	28.83	29.82	29.62	29.006	SSE	modt.	hazy and snow
25	35	24	31.17	29.83	29.77	29.802	SE	strong	cloudy and snow
26	49½	24	38.21	29.89	29.80	29.837	South	light	hazy
27	36	18	27.00	30.15	29.96	30.065	Westerly	light	clear
28	48	14	32.45	30.10	29.87	29.989	Southerly	light	cloudy
29	46	17	31.25	29.89	29.81	29.849	SW	a.m. light p.m. fresh	fine cloudy
30	26	13	19.42	30.13	29.95	30.003	NbW	fresh	clear
31	27	11	18.25	30.08	29.98	30.025	NW	modt.	clear
	+49½	−8	+24.86	30.47	29.38	29.915			

to accompany the travellers on my sledge as far as the head of Quilliam Creek, and by victualling them thus far on their journey, enable them to gain a day or two's resources in advance. Another object which I had in view was to endeavour to find a lake mentioned by Toolemak; who assured me that if I could dig holes in the ice, which was five feet thick, plenty of large salmon might be caught with hooks, an experiment which seemed at least well worth the trying. 1823. June.

Our first shooting-parties, being relieved on the 5th, brought with them a hundred and twenty ducks which, as well as all other game that might be procured this season except venison, I directed to be served as an extra allowance to the officers and men. These proved the more acceptable in consequence of our usual supply of the hearts, livers, and kidneys of the walrus having lately failed us, the Esquimaux having little or none to spare. So accustomed had we been, indeed, to this supply, that the sudden failure of it was esteemed a greater loss than we could have supposed possible a twelvemonth before. We were much shocked about this time to hear of the death of poor *Togolat*, at a station somewhat to the southward of Ooglit. About six weeks before this she had been unwell at Igloolik, when Mr. Edwards, having seen and prescribed for her, recommended that she should be brought to the ship. I proposed this to Ewerat, and offered to send my sledge for her and to lodge them both in my cabin, to all which he seemed to agree; but with a degree of caprice almost unaccountable, even in a savage, set off the very next morning to the southward. Here, as we heard from time to time, she continued constantly ailing; but Ewerat still moved further and further out of our reach, and at length lost his wife to whom he was certainly very much attached. We regretted the death of this poor woman extremely, for she was one of our first and principal acquaintance, and we knew that our friend Ewerat would sadly feel her loss. Thur. 5.

On the 7th, the weather being more favourable than before, Captain Lyon and myself set out to the westward at half-past eleven A.M., and the ice proving level, reached Khemig at half-past five; when it was satisfactory to find that the route followed by Captain Lyon on his journey with Toolemak was precisely that which I had supposed, every feature of the land, of which the fog had before scarcely allowed him a glimpse, being now easily recognised and every difficulty cleared up. Continuing our journey among the Coxe Islands till seven o'clock, we landed upon one of them, and were not sorry to find abundance of water on every rock, though on the loose Sat. 7.

1823. June. soil of the land about the ships, none had yet appeared. Proceeding at eight A.M. on the 8th, we soon met with numerous tracks of deer upon the

Sun. 8. ice, which, together with the seals that lay in great numbers near their holes, expedited our journey very considerably, the dogs frequently setting off at full gallop on sniffing one of them. Landing at the head of Quilliam Creek at half-past one, we took up an advantageous position for looking about us, in order to determine on the direction of Captain Lyon's route over land, which all the Esquimaux concurred in representing as a laborious one. The land is here almost entirely high, a range of lofty hills stretching in a north-west and south-east direction at the back of the creek, and intercepting the view to the westward. Much of this rugged land had now lost its snow, and the only route that seemed practicable for a sledge was in about a S.b.E. direction at the foot of the hills, which appeared afterwards to take a more westerly turn. We met with several rein-deer immediately on our landing; and while in pursuit of them Captain Lyon discovered a lake two or three miles long and a quarter of a mile broad, a short distance from the tents, which we concluded to be that of which I was in search. As some of our party were suffering from snow-blindness and, what is scarcely less painful, severe inflammation of the whole face occasioned by the heat of the sun, we remained here for the rest of this day to make our final arrangements.

Mon. 9. At nine A.M. on the 9th we struck the tents, and Captain Lyon set off to the southward, while we drove over to the lake, which is one mile N.N.W. of the head of the creek, and after three or four hours' labour completed a hole through the ice, which was very dark-coloured, brittle, and transparent and, as Toolemak had said, about five feet thick. The water which was eleven fathoms deep flowed up within a couple of inches of the surface, over which lay a covering of snow eighteen inches in depth. In confident hope of now obtaining some fish, we proceeded exactly according to Toolemak's instructions; but, after four-and-twenty hours' trial at all depths, not even a single nibble rewarded our labour; so that after obtaining observations, which gave the latitude of the head of the creek 69° 32′ 20″, and its longitude 1° 33′ 14″ W. of the Fury, we set off on our return down the creek on the 10th.

Wed. 11. Coasting the south shore, on which I wished to obtain observations and angles for the survey, we the next day entered a small bay where we pitched our tent; our whole party being so snow-blind with endeavouring to distin-

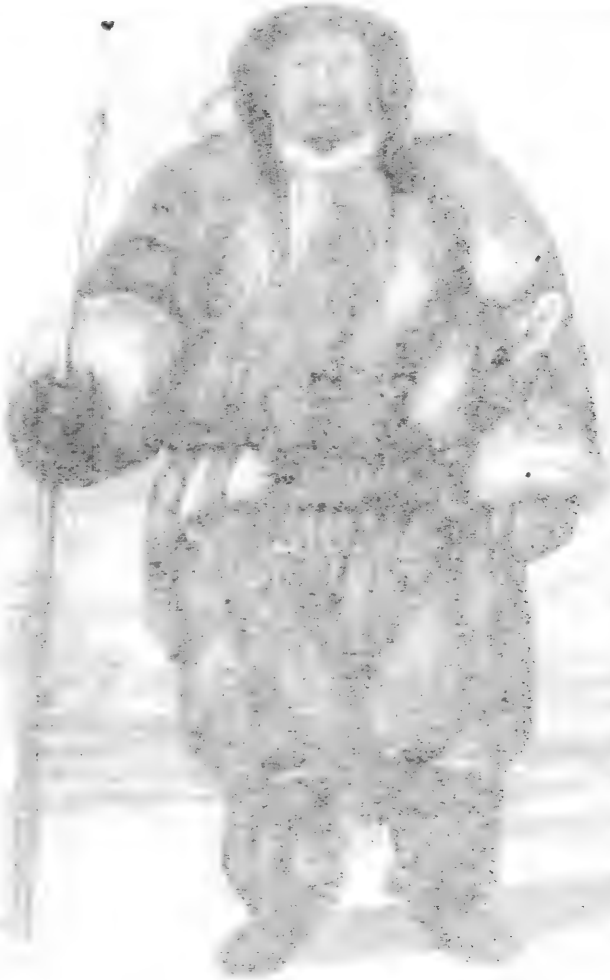
guish the land from the ice, (so entirely were both covered with snow,) that we could literally no longer muster one eye among three of us to direct the sledge. I found a handkerchief tied close, but not too tightly, round the eyes for a whole night, to be a more effectual remedy for this disagreeable complaint than any application of eye-water; and my companions, being induced to try the same experiment, derived equal benefit from it. 1823. June.

The 12th proved so inclement a day, with hard gales from the N.W. and N.E., and continued snow and drift, that no observations could be obtained, and we were glad to keep within the shelter of the tent. On the following day, after waiting for observations, which gave the lat. 69° 18′ 33″, and the long. 31′ 36″ W. of the Fury, we set off for Arlagnuk, where I wished to visit our shooting parties. A bay on the south shore, subsequently named after Mr. Mogg, of the Hecla, was reserved for future examination, it being impossible to distinguish the coast line till the snow was more cleared from the land; this was in fact much less the case at this period than it had been during the second week in May. Reaching Arlagnuk towards evening, we found that our parties had each thirty or forty ducks ready for the ships; and that the Esquimaux had lately altogether deserted this station, owing to the scarcity of walruses, and had removed to Ooglit, where these animals were said to be abundant at this season. Leaving our people on the morning of the 14th, I returned on board soon after noon, where I found that nothing worthy of particular notice had occurred during my absence. The latitude of our tents at Arlagnuk, which was one mile to the southward of the point more properly so called, was, by the mean of several observations by Mr. Ross, 69° 11′ 33″, and I found it, by chronometer, 23′ 09″ East of the Fury's winter station. This shore, the whole way along the south coast of Hooper Inlet, from the head of Quilliam Creek, is composed nearly of the same loose limestone formation as that of Igloolik. Thur. 12. Frid. 13. Sat. 14.

The golden plovers and sand-pipers now appeared occasionally in flocks, and a few were sometimes brought in by our sportsmen. Black and red-throated divers had also made their appearance about the small ponds and lakes at Arlagnuk, as well as a few brent and bernacle geese. The two latter are considered by the Esquimaux, though certainly erroneously, as the same species, of which they take the bernacle to be the male bird. They of course, therefore, call both by one name (*neer-luk*,) from which, as we afterwards learned, the island of *Neerlonakto*, which abounds in these birds, has received its appellation. Some silvery gulls and king-ducks began occasion-

1823. June. ally to hover about the ships, being attracted by the pools of water near them. These had now become considerable, in consequence of the sand and other substances with which, immediately in their neighbourhood, the ice was lightly covered in many places. The quickness and certainty with which this process goes on under these circumstances, induced me on this occasion to try the experiment of dispensing with the usual wet and laborious operation of sawing the ice round the Fury. The event was such as to answer every expectation, not the smallest injurious strain having been suffered by the ship's bends, notwithstanding the alteration of weight and stowage; and the ship gradually liberated herself by the dissolution of the ice about the beginning of July. The Hecla being surrounded by the masses squeezed up to a great thickness in the preceding autumn, was obliged to dig a trench and, after sawing the rest, to pull out the blocks as usual; but with a single winter's formation around a ship, strengthened as ours were, I believe she may safely be left to liberate herself, and that she will usually be free in time to take advantage of the other ice breaking up.

Frid. 20. On the 20th three or four other Esquimaux, strangers to us, arrived at Igloolik from the northward, and we found from two young men who visited Sat. 21. us on the following day that they came from *Too-nōo-nek*, a place undoubtedly situated somewhere on the western coast of Baffin's Bay, or about some of the inlets communicating with it, as they had there seen several *Kabloona* ships employed in killing whales. It is not improbable, from the various accounts of the direction and distance of Toonoonek, communicated by the Esquimaux through the usual medium of their charts, that the part of the sea-coast so named lies at no great distance from Pond's Bay, in lat. 72½°, which has lately become a common rendezvous of our Davis' Strait fishermen. Of this fact we had, in the course of the winter, received intimation from these people from time to time, and had even some reason to believe that our visit to the Esquimaux of the River Clyde in 1820 was known to them; but what most excited our interest at this time was the sledge brought by the new-comers, the runners being composed of large single pieces of wood, one of them painted black over a lead-coloured priming, and the cross-bars consisting of heading-pieces of oak-butts, one flat board with a hinge-mark upon it, the upper end of a skid or small-boat's davit, and others that had evidently and recently been procured from some ship. On one of the heading-pieces we distinguished the letters *Brea*—, shewing that the cask had, according to the custom of the whalers, contained bread on the outward passage. The



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nature of all these materials led us to suppose that it must have been procured from some vessel wrecked or damaged on the coast; and this suspicion was on the following day confirmed by our obtaining information that, at a place called *Akkōodneak*, a single day's journey beyond Toonoonek, two ships like ours had been driven on shore by the ice, and that the people had gone away in boats equipped for the purpose, leaving one ship on her beam ends and the other upright, in which situation the vessels were supposed still to remain *. 1823. June.

We observed on this occasion, as on our first arrival at Igloolik, that the new Esquimaux were obliged to have recourse to the others to interpret to them our meaning, which circumstance, as it still appeared to me, was to be attributed as before to our speaking a kind of broken Esquimaux that habit had rendered familiar to our old acquaintance, rather than to any essential difference in the true languages of the two people.

Toolemak, having some time before promised to accompany me to the fishing-place, taking with him his wife, together with his sledge, dogs, and tent, made his appearance from Ooglit on the 23d, bringing however only the old lady and abundance of meat. Having lent him a tent and two of our dogs, and hired others to complete his establishment, we set out together at five A.M. on the 24th, my own party consisting of Mr. Crozier and a seaman from each ship. Arriving at Khemig towards noon, we found among the islands that the ice was quite covered with water, owing probably to the radiation of heat from the rocks. The weather indeed proved intensely hot this day, the thermometer in the shade at the ships being as high as 51°, and the land in this neighbourhood preventing the access of wind from any quarter. The travelling being good beyond this, we arrived within four or five miles of the head of Quilliam Creek at ten P.M., where we pitched the tents for the night. In this day's journey ten dogs had drawn my sledge a distance of forty statute miles since the morning, the weight on the sledge being about twelve hundred pounds and half of the road very indifferent. It is the custom of the Esquimaux, even when meat is most abundant, to feed these invaluable animals only once a day, and that in the evening, which they consider to agree with them better than more frequent meals; we always observed the same practice with ours, and found that they performed their journeys the better for it. Mon. 23. Tues. 24.

* We have since heard that these ships were the Dexterity of Leith and the Aurora of Hull, which were wrecked on the 28th of August 1821, about the latitude of 72°.

1823. June. We saw in the course of the day a few deer, numerous king and long-tailed ducks, and red-throated divers; also some geese then new to us, and which, on procuring a specimen a day or two after, proved to be the snow-goose (*anas hyberborea*). These last are fond of feeding on the wet grass and moss on the banks of the numerous streams and lakes in this country. They were seen at Arlagnuk, and by Captain Lyon on his journey, about the same time, so that the period of their arrival in this latitude seems to have been very well marked.

Wed. 25. On the morning of the 25th, while passing close to a point of land, Toolemak suddenly stopped his sledge, and he and his wife walked to the shore, whither I immediately followed them. The old woman, preceding her husband, went up to a circle of stones, of which there were two or three on the spot, and kneeling down within it cried most loudly and bitterly for the space of two or three minutes, while Toolemak also shed abundant tears, but without any loud lamentation. On inquiring presently after, I found that this was the spot on which their tent had been pitched in the summer, and that the bed-place on which the old woman knelt had been that of their adopted son *Noogloo*, whose premature death we had all so much regretted. The grief displayed on this occasion seemed to have much sincerity in it, and there was something extremely touching in this quiet but unaffected tribute of sorrow on the spot, which so forcibly reminded them of the object of their parental affection. I have much gratification in adding in this place another circumstance which, though trifling in itself, deserves to be noticed as doing honour to these people's hearts. They had always shewn particular attachment to a dog they had sold me, and which bore the same name as a young man, a son of their own, whom they had formerly lost. In the course of this journey, the old woman would constantly call the dog "Eerninga" (son), which the affectionate animal never failed to repay by jumping up and licking her face all over, whenever his trace would allow him; and at night, after Toolemak had fed his own dogs, he frequently brought to our tent an extra piece of meat expressly for *Annōwtalik*, to whom these poor people seemed to take a mournful pleasure in now transferring their affection.

Landing close to the head of the inlet on the south shore, we proceeded with difficulty a couple of miles over land till we came to a river, the limits of which the warmth of the weather was just rendering discernible, and which our guides informed us was to be our fishing-place. It was interest-

ing to observe that, in every case of doubt as to the situation of a place, the best route, or the most advisable method of overcoming any difficulty, Toolemak invariably referred to his wife; and a consultation of some minutes was held by these two before they would determine on what was to be done, or even return an answer to our questions respecting it. Pitching our tents upon the banks of the river, we went upon the ice, which was still quite solid except close to the shores, and soon made two or three holes for a hook and line, the thickness of the ice in the middle being from six to seven feet. The Esquimaux fish-hook is generally composed of a piece of ivory, having a hook of pointed iron, without a barb, let into it. The ivory they consider useful in attracting the salmon, but they also bait the hook with a piece of blubber well cleared of its oil by chewing, and securely tied on with a thread of sinew so as to cover nearly the whole of the hook. A small piece of bone, rein-deer's horn, or wood, serves as a rod, and with this they keep the bait constantly in motion up and down, the bait being from one to three feet below the lower surface of the ice. Previously however to commencing the fishery, the old lady, who took the principal part in this employment, muttered some words, to me altogether incomprehensible, over the hole, to which Toolemak in a formal manner, added something about fish and *Kabloonas;* and the whole of this preparatory ceremony seemed intended to propitiate the spirit, to whose department the salmon particularly belonged. The lady (for it seems she is a female) did not, however, appear to lend a very favourable ear to our wants or Toolemak's rhetoric, for after many hours' patient trial on this and the following day, only two fish were seen and one caught to repay our labour. 1823. June. Thur. 26.

On the 27th Toolemak and his wife went over to a small shallow lake on the opposite side of the river, where they caught three or four fish of the salmon kind, but none more than one pound in weight. He then came back to the tent, and made a small spear according to their own fashion; but with this, to his great disappointment, he could not strike a single fish. A sort of *fish-gig*, which we made out of four large hooks lashed back to back at the end of a light staff, succeeded much better, the bait being played in the usual manner to attract the fish, which were then hooked up with great ease and certainty by this instrument. In this manner we soon caught a dozen of the same kind as before, and the rest of our party had in the mean time killed a deer. Frid. 27.

Toolemak began now to be extremely impatient to return home, his prin- Sat. 28.

1823. June.

cipal anxiety arising, I believe, from a childish desire to know what I should give him for his trouble; and when, in writing a note to Lieutenant Nias, I enumerated the articles I intended to present to him, he expressed more delight than I had ever before seen escape him. Among these was one of the rifle-guns supplied as presents, together with a sufficient quantity of ammunition to last him one summer, after which the gun would probably become useless itself for want of cleaning. It was astonishing to see the readiness with which these people learned to fire at a mark, and the tact they displayed in every thing relating to this art. Boys from twelve to sixteen years of age would fire a fowling-piece, for the first time, with perfect steadiness; and the men, with very little practice, would very soon become superior marksmen*. As, however, the advantage they could derive from the use of fire-arms must be of very short duration, and the danger to any careless individuals very considerable, we did not on any other occasion consider it prudent to furnish them in this manner.

On the morning of the 28th, Toolooak left us for the ships, carrying with him our venison to be left there, and having first explained when and where the Esquimaux catch the fish with which he had supplied us the preceding summer; for it now appeared that they were not found in great abundance, or of that magnitude, in the river; but at the mouth of a very small stream about two miles lower down the creek on the same side. Their method is, to place in the bed of the stream, which is quite narrow and seldom or never so deep as a man's middle though running with great force, two or three separate piles of stones, which serve the double purpose of keeping off the force of the stream from themselves, and of narrowing the passage through which the fish have to pass in coming up from the sea to feed; thus giving the people an opportunity of striking them with their spears, and throwing them on shore without much difficulty. We at first supposed that the salmon ascended the stream into lakes above for the purpose of spawning; but this could not here be the case, as the water became much too shallow for this at less than a hundred yards from the sea. Our fishermen

* A fine lad, of about sixteen, being one day out in a boat with one of our gentlemen at Arlagnuk, reminded him, with a serious face, that he had laid a gun down *full-cocked*. There happened to be no charge in the gun at the time; but this was a proof of the attention the boy had paid to the art of using fire-arms, as well as an instance of considerate and manly caution, scarcely to have been expected in an individual of that age.

afterwards found that they never went up a quarter of that distance, merely playing about the entrance to pick up their food, which was found to consist of a very small fish abundant at the mouth of the stream. The latter are probably therefore brought down by the streams at this season from the lakes above, and occasion the salmon to resort to the spots in which, it seems, they are annually found by the Esquimaux. With respect to their spawning, it does not appear necessary for them to ascend any streams for that purpose, if abundance of fresh water be all that is requisite for it; as the water of the creek was not merely drinkable, but perfectly fresh almost down to its entrance. 1823. June.

After Toolemak's departure we remained two or three days longer, but only succeeded in killing one more deer and three or four dozen fish of the same kind and size as before. The whole country had by this time become almost deluged with water, innumerable ponds and streams appearing on every side, as if all at once let loose by magic; so rapid had been the change during a single week of fair and temperate weather! The ice on the deep lakes was from five to seven feet in thickness, and bade fair not to be entirely dissolved during the summer; that on the shallow ones was already very thin and rapidly decaying.

The river we were now leaving, and which I named after my companion Mr. Crozier, was about three hundred yards in breadth abreast of our tents; but this part afterwards proved only a small branch of it, the main stream coming from the south-eastward along the foot of the hills which Captain Lyon was endeavouring to pass; and indeed, as we had every reason subsequently to believe, being the very route he had pursued, though it was then so completely covered with snow in most parts as to allow the ice to be distinguished only in a few places. The rocks in this neighbourhood are principally composed of a reddish granite, but gneiss also frequently appears among them. The sides of many of these are quite precipitous, in which case water, either in a stream or a lake, is generally found at their base. There is, however, between the hills abundant vegetation, affording excellent feeding for the deer which were at this time very scarce here. The lakes and ponds are the resort of numerous ducks of the king and long-tailed species, and a few red-throated divers. We saw also some brent and snow-geese, and Mr. Crozier obtained a single specimen of the latter. A bird like a crane, standing three or four feet high, and with very long legs, fairly outran our party in a long chase, and then with difficulty rose on the

1823. June. wing. We supposed this to have been the *ardea canadiensis*, one of which species was killed by Captain Lyon on his journey back to the ships.

July. Tues. 1. On the afternoon of the 1st of July we shifted our tents over land and down the creek as far as the salmon stream. In performing this short journey over bare ground, I was enabled to form some conception of the difficulties likely to be encountered by Captain Lyon and his companions; for even with our light load the dogs could scarcely move at times. One of the strongest of eleven fell down in a fit, occasioned by over-exertion; the poor animal lay on his side, foaming at the mouth for a minute or two, but soon recovered sufficiently to be able to walk; and being taken out of the sledge was quite strong again the next day. We had scarcely arrived at the stream, when Toolemak's account was very satisfactorily confirmed by our finding on the ice near its mouth part of two fine salmon, above two feet in length, that had been thrown up by the force of the torrent, and a similar one was seen in the water. Our provisions being now out, we prepared for returning to the ships the following day; and I determined in a short time to send out Mr. Crozier with a larger party, well equipped with every thing necessary for procuring us both fish and deer. We therefore left our tent, spare ammunition, and various other articles that would be required here, buried under a heap of stones near the stream, and on the
Wed. 2. morning of the 2d, set out for the ships. The change which one week had made upon the ice it is quite impossible to conceive, the whole surface being now chequered with large and deep pools of water, where not a symptom of thawing had before appeared. This continued the whole way to the ships, which we reached at eight P.M., finding Captain Lyon and his party returned, after a laborious but unsuccessful endeavour to penetrate over land to the westward. The following account of this excursion was accompanied by a chart illustrating the position of the mountainous land and the daily route of the party, which have been transferred to the general survey.

June 9. "On the 9th separating from Captain Parry, we proceeded in a S.S.E. direction over what appeared a level plain, while on the right our view was bounded by rugged mountains of granite. As we advanced the weather gradually thickened, and a heavy S.W. wind accompanied by small snow and drift, hid the land from us, so that we could strike into no direct course for the sledge. At noon therefore, having travelled three hours, we tented on

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Igloolik, during the Month of *June*, 1823.

Day	Fahrenheit's Thermometer.			Barometer.			Prevailing Winds.		Prevailing Weather.
	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Direction.	Velocity.	
	°	°	°	inches.	inches.	inches.			
1	+31	+8	+24.17	30.03	29.94	29.987	North	light	cloudy
2	30	12	19.25	30.31	30.03	30.175	NNW	strong	fine
3	31	12	22.29	30.40	30.32	30.363	NW	light	clear
4	41	14	26.55	30.28	30.10	30.218	SW	light	cloudy
5	36	16	26.00	30.05	29.92	29.967	NbE	light	hazy and small snow
6	28	17	22.33	29.90	29.84	29.870	North	fresh	cloudy
7	38	18	28.67	29.98	29.83	29.927	NNW	light	cloudy
8	45	19	31.00	29.95	29.70	29.857	South	modt.	cloudy
9	35	23	28.83	29.64	29.44	29.542	South	fresh	cloudy
10	42	22	33.50	29.45	29.40	29.420	SE	light	hazy and snow
11	45	23	32.50	29.39	29.35	29.368	SW	light	hazy and snow
12	32	19	25.75	29.20	28.96	29.102	NNW	fresh	hazy and snow
13	35	16	29.50	29.30	29.17	29.252	North	fresh	cloudy
14	38	27	31.50	29.50	29.37	29.397	NNW	modt.	cloudy
15	47	34	34.42	29.99	29.86	29.937	WNW	light	cloudy and snow
16	48	25	35.92	30.07	30.00	30.035	SW	light	fine
17	37	27	31.83	30.02	29.82	29.915	NNW	light	cloudy
18	41	25	33.12	30.04	29.84	29.933	NE	modt.	cloudy—snow at times
19	33	27	30.00	30.12	30.05	30.098	North	modt.	cloudy
20	40	26	33.00	30.42	30.16	30.285	North	modt.	clear
21	40	24½	32.37	30.51	30.49	30.504	North	light	cloudy
22	39	30	35.33	30.52	30.36	30.460	NbW	light	fine
23	30	30	35.25	30.41	30.33	30.362	North	light	fine
24	51	33	41.67	30.30	30.28	30.285	East	light	fine
25	41	33	38.75	30.28	30.26	30.270	NW	light	fine
26	44	32	38.83	30.26	30.10	30.103	NW	light	fine
27	46	34	39.83	30.10	29.98	30.015	West	light	fine
28	44	32	39.50	29.97	29.74	29.833	N. Westerly	light	hazy
29	48	33	41.67	29.72	29.56	29.648	West	light	fine
30	52	31	42.33	29.58	29.50	29.540	NW	light	hazy
	+52	+8	+32.16	30.68	30.06	30.031			

1823. June. the snow to wait for better weather; thermometer 40°. Towards evening the snow ceased, and at six P.M. we again moved forward over a plain so flat that I fancied it was a lake, until by accidentally breaking through the deep crust of snow which covered it, we saw moss and grass. At thirty minutes after eight the weather again thickened, but before it did so we were enabled to observe that the low land ran for several miles in a southerly direction. The granite mountains at this part assumed a more rounded form and were entirely covered with snow. Having travelled in the course of this day above eight hours, S.S.E., we tented for the night on the snow. A heavy gale with thick snow and drift continued to render us very uncomfortable at a temperature of 25°.

10. "This severe weather continued until five P.M. on the 10th, when the snow ceased, but the sky was so cloudy, and the view so limited that we remained completely in the dark as to our road. Determining however to attempt to make some westing, we ascended some high and rounded hills in nearly a west direction. The recently fallen snow was so deep that the dogs were buried to their bellies, and even our snow-shoes were but of little assistance to us. A flock of seven ducks passed us flying to the south-west. After two hours' extreme exertion we reached the summit of the smooth hills, and thence saw a chain of mountains lying immediately across our path at about three miles' distance.

"Heavy snow and calm weather obliged us to tent on the hills, which, on clearing away the snow for a sleeping-place, we found to be covered with shingle limestone on a bed of yellow marl. Thermometer, at ten P.M., 20°.

11. Heavy snow all night; and on the 11th it still continued to fall thickly until thirty minutes after three P.M., when clearing a little, I determined on attempting to pass through a small opening in the mountains about W.S.W. of us. The snow which had now fallen with but little intermission for two days and nights was so deep, that we proceeded very slowly and with great labour, and the mountains were as completely covered as in the middle of winter. After two hours' toil in ascending a steep hill we arrived on what we conceived was good table land, when we suddenly found ourselves on the brink of a precipice, and a chain of mountains extending from north to S.E. On stopping the sledge it sank so deep in a wreath of snow that all our efforts to move it were in vain; the dogs were quite overcome, and we were quite at a stand. We therefore unloaded it and threw away about one hundred weight of such things as could be spared, after which about half an

hour's labour extricated it. When reloaded it overset and I was almost tempted to abandon it, for I saw how impossible it was for even an unloaded man to climb the snow-covered and steep mountains west of us. I however resolved at last on returning to the low land, and by tracking along the foot of the hills, look out for the first opening to the westward. Seven hours' travelling over the plain brought us to the foot of a mountain which I had observed to bear about S.E., and here we tented. 1823. June.

"A heavy snow-gale confined us to the tent during the 12th and 13th, and a part of the 14th, a few minutes' sun at noon on the 13th, (the first time we had seen it since leaving Captain Parry,) gave me an opportunity of obtaining the meridian altitude, and on the 14th by sights for the chronometer, I obtained the longitude. Lat. 69° 15′ 6″ long., 1° 11′ 30″ W. of Hecla. 12. & 13.

"At five P.M. on the 14th, we proceeded in a south-easterly direction along the foot of the rocky hills. On the snow which was very soft we saw a bear's track, and on a patch of shingle found several sea-shells. Five hours' travelling brought us to the end of the chain of hills, and from this point we saw the ship with a glass about N.E., twenty miles. I had for some time suspected that we had taken the wrong route, as no Esquimaux could have passed with a sledge over the mountains at whose feet we had been travelling; I had however better hopes at this place by seeing the hills become lower and trend to the south-westward, which answered in a great measure with the Esquimaux description of the land they passed over. At the foot of this point lay a narrow lake of about three miles in length, and near it was a small but deep craggy ravine. On the shingle ridges we saw several Esquimaux circles, and a golden plover passed us on the wing. Travelling hence about three miles southerly we tented on the snow, the wind being at N.W., and the night extremely cold. 14.

"The morning of the 15th was thick and cold and the N.W. wind was unabated. Soon after noon we proceeded in a westerly direction but without having any fixed object to guide us. In this manner we travelled for two hours, when the weather clearing we saw the hills turning to the southward, to which direction we altered our course; and having gone forward for two hours more, tented on the snow for a short time as two of the dogs were so fatigued as to be scarcely able to walk. In fact, the whole of them were much distressed, for they were unaccustomed to land travelling, and the depth of the snow always caused the sledge to hang as a dead weight. At nine P.M., having rested, we proceeded and travelled until one A.M. the 15.

1823. June. 16th, when we tented on some flat rocks on which we procured abundance of water, which luxury we had hitherto enjoyed but sparingly. We here saw one small plant of saxifrage in blossom.

16. "The morning of the 16th was mild and fine, but towards noon wind and sleet came strong from the westward: as our snow-shoes required repair and our feet were much blistered, I took advantage of our being on a good dry rock to refresh ourselves and dogs. We saw a fox, two plovers, and several buntings. Deer tracks were numerous and recent, but the howling and fighting of our wild and restless dogs quite drove the animals away from us.

"In the evening we advanced and, following the direction of the mountains on our right, made a south-easterly course over a large lake of about ten miles in length by from one to four in breadth, on the shores of which in some places the ice was pushed up in high transparent hummocks, we saw some wolf tracks, and a few plovers, knots, and sandlings. One deer passed at a distance. At this place there was not an eminence in any direction which was without some piles of stones placed by the Esquimaux hunters. Turning the hills to the S.S.W. we passed over low but exceedingly rocky ground, amongst which the snow was continually knee-deep, and the poor dogs were so exhausted that we were obliged to stop on a little rock in a lake at the foot of the mountains. The whole day had been so cloudy and thick that we had no idea of what kind of country lay beyond us. The snow was literally covered by deer-tracks, and we saw three of
17. these animals but the dogs frightened them from us.

"A fresh easterly wind was blowing on the 17th, which was very cold. In order to obtain a view amongst the mountains, I walked out, accompanied by one of the men, for nine hours, and we got about eight miles south of the tent to the top of the highest place we could find. From hence we saw about fifteen miles over other mountains extending from north to south-east, while on the left the appearance of low land was unaltered. On our return, we killed a doe, of which I gave the better half as a refreshment to the dogs.
18. At half-past two P.M. on the 18th we started south-east about eight miles over a lake to a low point, at which we were obliged to tent for the night, in consequence of a heavy snow-storm which prevented our seeing half a mile in any direction. While tenting, a large buck walked slowly past us, and was killed; of this animal we gave two-thirds to the dogs.

"The night was bleak and tempestuous, and we found on the morning

of the 19th that the snow had fallen some inches in depth, and the whole country round us was covered. Towards noon it ceased snowing, but the piercing cold gale was unabated and drift flew in clouds. Soon after two P.M. we quitted the point for another, which still bore about south-east, at which we arrived, after passing over a very flat plain or lake for about seven miles. The snow was here firmer than we had found it of late, and the mountains formed a bight of about four miles in depth on our right. From this point a distant part of the range bore south, and promised to turn to the westward, as we could see nothing beyond it; we in consequence proceeded briskly for it, and had travelled six miles or half-way, when we saw it take a sweep to very distant hills, south-east. All my hopes of making westing now ceased, and I was aware that nothing could be done in this direction, which certainly was not the route crossed by the natives in their passage to the Western Sea. I therefore struck from off the plain to the foot of the high land about three miles on our right, where we tented, and I determined on waiting till the gale should moderate, when I could retrace my steps to Quilliam Creek, and from thence proceed, if the season would permit, in some other direction. 1823. June. 19.

"The north-east gale continued during the fore part of the day, yet I should have set out had it not been for the severe pain it caused our faces, and its influence on our snow-shoes, which it sometimes turned quite aside and almost tripped us up. Four large white birds, with black-tipped wings, passed at some distance. In the afternoon we started, and travelling eight hours over the snow, which was somewhat hardened by the gale, reached the little rocky isle on which we had passed the 17th. 20.

"The wind was unabated on the 21st, and at three P.M. we started, but were soon detained by one of the dogs slipping his harness and giving chase to a couple of deer, which he pursued with great spirit to the hills, where he soon disappeared, regardless of all our cries to stop him. At the expiration of a couple of hours, and when we had advanced two or three miles, giving him up for lost, we saw him tracking our footsteps, and he soon came up much fatigued. We travelled nine hours on this day, yet very slowly, for I had sprained my foot amongst the rocks some days before and it had now become very troublesome. Soon after midnight we arrived and tented at the place where we slept on the 16th; deer were abundant, and a buck was shot near the tent. We this day saw four brent-geese and several large flocks of ducks. 21.

1823. June. 22. "As my leg was swoln and painful, I determined on resting for the day, which was warm but gloomy, the thaw proceeding very rapidly. With the exception of saxifrage, I observed no plant in bloom, but the grasses and mosses were shooting luxuriantly, and promised abundant provision to the vast quantities of deer which we continually saw. In fact, such was their number, that had we been employed as a shooting, instead of a travelling party, we might have procured enough to supply both ships constantly, were they not too distant for the conveyance of the venison.

23. "The 23d was fine and very warm, which softened the snow so much that the snow-shoes sank several inches at every step. Starting at five P.M., we travelled for nine hours over the still deeply-covered plain, in order to reach the point whence we had seen the ships; we here found the valley quite flooded, and the ravine beginning to run. While we were tenting, we saw a fox prowling on a hill-side, and heard him for some hours after, in different places, imitating the cry of the brent-goose. The night was cold, and we felt it very sensibly after the most sultry day I ever remember to have seen in this country; our faces and hands smarted most severely and were much
24. swollen by the scorching of the sun. The 24th was also a very hot day, and I found the country so universally flooded that I gave up all idea of proceeding for Quilliam Creek, and determined during the night to make for the ships. When the evening cooled we proceeded over the plain, and wading, rather than walking, through deep snow and water for eight hours, arrived
25. at four A.M. on the 25th at the sea-side, about eight miles to the south-west of the ships. Here we gladly tented and rested; Dunn killed a brown and ash-coloured crane *(ardea canadiensis, Linn.)* which pitched near us.

26. "Starting at four A.M. on the 26th, we waded for eight hours to the ships, and when amongst the hummocks, about a mile from the Hecla, were so completely buried in the wet snow, that we were obliged to make a signal for assistance, as we were too much fatigued to clear the sledge. A party was sent, and with their help we arrived on board at noon.

"We had now obtained sufficient proof that no passage was practicable in a southerly direction to the sea, and had also learned by experience the extreme difficulty of carrying a sledge over land, even with so fine a team of dogs as mine. That some other way might be found to obtain a view of the Western Sea, I was yet in hopes; but it was not possible to pass over land at this time, from the state in which the thawing had left the snow. A more advanced period of the season might perhaps be more favourable; but even

a walking party, laden with tent and provisions, would make but little progress over the mountains." 1823 June.

Had it not been for our preceding year's experience in this neighbourhood, the present appearance of the ice, and the rapid progress which it seemed to be daily making towards dissolution, would have flattered us with hopes of an early release, which, as we now too well know, must have ended in disappointment. The space we had covered with sand, and which was now called the canal, was from a foot to eighteen inches deep, with water throughout its whole extent; and such was the benefit evidently to be derived from it, that could the same thing have been carried the whole way down to the open water, the first south-easterly gale would probably have caused a total disruption, and at once liberated the ships. As it was, there could be little doubt that it would still very considerably facilitate our escape, which, with this assistance, it was reasonable to hope might yet be effected before the conclusion of the month of July, though we had still six miles of ice interposed between us and the open water. July. Wed. 2.

Our shooting parties to the southward had of late been tolerably successful, not less than two hundred and thirty ducks having been sent in to the ships in the course of the last week. Mr. Ross had procured a specimen of a gull having a black ring round its neck, and which, in its present plumage, we could not find described. This bird was alone when it was killed, but flying at no great distance from a flock of tern, which latter it somewhat resembles in size as well as in its red legs; but is on closer inspection easily distinguished by its beak and tail, as well as by a beautiful tint of most delicate rose-colour on its breast.

The first continued rain that we had seen this season fell for several hours on the morning of the 2d, though a few drops had before been observed on the 15th and 29th of June. For the remainder of the month of July we experienced a great deal of rain and fog, with long southerly and easterly winds, and a high mean daily temperature.

On my arrival at the ships I found several new Esquimaux on board who, to the number of twenty, had lately arrived from *Toonōonee-rōochiuk*, a place situated to the westward and northward of Igloolik and somewhere upon the opposite coast of Cockburn Island. The distance to this place was stated by the Esquimaux to be from six to eight days' journey, of which one

1823. July. only was occupied in crossing to the great northern inlet we had seen on this side of Cockburn Island, and the rest in travelling overland to a corresponding inlet of the sea, on the other. This party confirmed the former account respecting the two ships that had been forced on shore; and indeed, as an earnest of its truth, one man named *Adloo*, who was said to have actually seen them in this state, was a day or two afterwards met by our people at Arlagnuk, while travelling to the southward, and having on his sledge a great deal of wood of the same kind as that before described.

This information having excited considerable interest, Lieutenant Hoppner, who had taken great pains to ascertain the facts correctly, volunteered his services to accompany some of the Esquimaux, who were said to be going northwards very shortly, and to obtain every information on this and other subjects which might lie within the scope of such a journey. Although I was not sanguine as to his principal object of reaching one or more of the Esquimaux stations on the northern shores of Cockburn Island, with guides so uncertain and capricious, yet I could not but consider the attempt as likely to produce something of interest; more especially as we had never been able to approach in the ships those parts of the coast which would constitute their first or second day's journey. I therefore directed Lieutenant Hoppner to proceed on this service, accompanied by three men, and four of the Hecla's
Frid. 4. best dogs to assist in carrying their baggage. On the night of the 4th, having heard that a party of the Esquimaux intended setting out the following morning, Lieutenant Hoppner and his people went out to their tents to be in readiness to accompany them. We were surprised to find, the next day, that not only Lieutenant Hoppner's intended guide, but the whole of the rest of these people, had altogether left the island and, as it afterwards proved, permanently for the summer. We were now therefore, for the first time since our arrival here, entirely deserted by the natives, only two or three of whom again visited the ships during the remainder of our stay. It appears probable, indeed, that these wandering people are in the habit of residing at their various stations only at particular intervals of time, perhaps with the intention of not scaring the walruses and seals too much by a very long residence at one time upon the same spot. What made this appear still more likely was the present state of their winter habitations at Igloolik which, though offensive enough at about the same time the preceding year, were then wholesome and comfortable in comparison. Besides quantities of putrid walrus flesh, blubber, and oil, carcasses of dogs and even of human beings

recently deceased were now to be seen exposed in their neighbourhood. 1823. July.
What remained of the corpse of *Keimōoseuk* was of course wholly uncovered; a second of a child on which the wolves had feasted, was also lying about; and a third, of a newly-born infant, was discovered in the middle of a small lake by Mr. Richards, who caused them all to be buried under ground. All this seemed to indicate, that the Esquimaux had not occupied the bone huts for at least one winter previous to our arrival, though Igloolik certainly appears to be one of their principal rendezvous, forming, as it were, a sort of central link in the very extensive chain of these people's peregrinations.

On the 6th we despatched a party of four men, under Messrs. Crozier Sun. 6.
and Bird, to the fishing station at Quilliam Creek, equipping them with a trawl-net and every other requisite for obtaining a supply of salmon for the ships. Soon after Captain Lyon, who was desirous of occupying a few days in shooting in that neighbourhood, also set off in the same direction, taking with him a small skin-boat which he had constructed for the use of our fishermen, and which proved of great service in shooting the net across the mouth of the stream.

Our stock of meat for the dogs being nearly expended, and no sea-horses having yet been seen near the shore, I sent Mr. Ross with a sledge to Tern Island on the 13th, in expectation of being supplied by the Esquimaux. Sun. 13.
Mr. Ross returned on the 14th without success, the whole of the natives Mon. 14.
having left the island after plundering the birds' nests, as they had done the preceding year. The open water was at this time about a mile and a half short of the island, differing little, if any thing, from its position at the same season of the last year. The birds now the most abundant here, besides tern which were also numerous, were eider-ducks, of which immense flocks were flying about; and it is their eggs for which the Esquimaux principally visit the island.

Finding that our valuable dogs must be now wholly dependent on our Tues. 15.
own exertions in providing meat, a boat from each ship was carried down to the neighbourhood of the open water, and shortly afterwards two others, to endeavour to kill walruses for them. This was the more desirable from the probability of the Fury's passing her next winter where no natives were resident, and the consequent necessity of laying in our stock for that long and dreary season, during the present summer. Our people therefore pitched their tents near the old Esquimaux habitations; and thus were four

1823. July. boats constantly employed whenever the weather would permit, for the three succeeding weeks.

Wed. 16. On the 16th Lieutenant Hoppner and his party returned to the ships, having only been enabled to travel to the south shore of Cockburn Island, on account of their guides not yet proceeding any farther. Two of the Esquimaux accompanied our travellers back to Igloolik and, being loaded with various useful presents from the ships, returned home the following day. Lieutenant Hoppner's account of his journey, comprising several anecdotes tending to shew the disposition and habits of these people, is here given in his own words.

5. "We left the ship at fifteen minutes past eleven P.M. on the 4th, and arrived at the Esquimaux tents about five in the morning. The Esquimaux were all asleep, but being disturbed by the noise of our arrival, they flocked round us to know the cause of so early a visit. Our intention of accompanying them seemed to afford great amusement, and many jokes were passed apparently at our expense. Having rested about two hours, we were disturbed by the whispers and stifled laugh of the women and children; and on going out found the tents all struck, the men already gone, and every appearance of the party, with whom we intended to travel, having fairly given us the slip. This unexpected departure somewhat embarrassed us; but we immediately prepared to follow them, and were relieved from our anxiety by finding that they were still at the edge of the ice. Perceiving we were really in earnest, and that our dogs, of which they had only a few wretched animals, were likely to be of use to them, Erichiuk suffered us to place the loads upon his sledge. We left Keiyuk-tarruoke at thirty minutes past nine, in company with four other sledges; and after clearing the grounded hummocks, travelled at a good pace in a north-easterly direction. When we got about five miles from Igloolik, the water became knee deep on the ice, which rendered walking extremely fatiguing. The men and several of the women dispersed themselves in all directions in pursuit of seals; whilst the sledges were left entirely to the management of the females who remained by them. Our assistance soon became necessary, and before the end of the day we quite gained their favour. It was at first the intention of the men to go to Tern Island to collect eggs, but about seven P.M. the weather assuming a threatening appearance, they determined to encamp on the ice. The number of stoppages, and

the winding course which we made to pick up the seals left by the hunters, rendered the day's journey extremely fatiguing and unpleasant, particularly as we suffered a good deal from cold. After travelling about twenty miles, we at length halted at thirty minutes past seven P.M. As we had nothing but our blanket-bags to place between us and the ice, Erichiuk kindly furnished us with staves procured from the ships, with which we floored the tent, and passed the night much more comfortably than we had anticipated. The encampment was formed on a small dry ridge of ice, almost the only spot free from water that we had seen during the afternoon. In consequence of their success, the Esquimaux passed the evening feasting on raw flesh; only one or two taking the trouble to light their lamps. 1823. July.

"The weather being fine on the 6th, we broke up the encampment at thirty minutes past seven A.M., and travelled about fifteen miles in a N.N.E. direction. The hunters of both sexes again dispersing themselves, many seals were killed merely for their skins, and the carcasses left on the ice, after being deprived of the entrails, of which the Esquimaux seemed particularly fond. At seven P.M. we landed on the north shore, and pitched our tent on a rocky point in the midst of the Esquimaux encampment. The women brought us some roots of the *potentilla pulchella*, which they had pulled whilst collecting dwarf-willow for their fires, and which had a pleasant flavour, resembling liquorice, but not so sweet. They seemed fond of it, and had brought in a considerable quantity, which they ate without cleansing from the soil. Nearly all the women had large kettles full of seals' flesh boiling outside of the tents; when it was ready the master of the tent announced it by three loud shouts, to collect the rest of the men to partake of it. They had scarcely finished one before another was ready, to which they were again summoned; and in this manner they kept up the feast until a late hour. 6.

"On the 7th the weather was gloomy with light rain occasionally. The Esquimaux remained at home all day, most of them being laid up with snow-blindness. No intelligence could be gained relative to their future movements; the women, who are always the most communicative, seemed to know nothing; and the men were either heedless of our inquiries, or very unsatisfactory in their answers. The land gradually rose behind our tents to hills of considerable height, well clothed with herbage, and seeming likely to afford game; but after a long walk we saw only a few deer-tracks, two grouse, and some ducks, all so wild that it was impossible to get near them. From the top of a 7.

1823 July. hill about three miles N.E.b.E. from the tents, we saw a wide expanse of ice, bounded by high land to the northward, apparently about the same distance as Neerlo-nakto was from us. Its eastern point, which seemed low, bore E.N.E., and was nearly in a line with the north point of the easternmost of the Calthorpe Islands. Our view to the westward was bounded beyond N.W. by the land we stood on, which however did not appear to approach that seen to the northward. A strait, about three miles in breadth, and of the same length, separated the land we were on from the Calthorpe Islands. This channel was clear of ice, appeared deep, and had a strong tide or current setting through it to the southward. I endeavoured to learn from the Esquimaux whether the land joined to the westward and formed a bay, but was unsuccessful in my inquiries. This inlet was named after Captain Sir Murray Maxwell, of the Royal Navy. In the evening we visited the tent of the old man from Toonoonek. He was an Angetkok and seemed fond of exhibiting his skill. He sat with his arms drawn out of the sleeves of his jacket and apparently folded over his breast, but in reality employing his fingers tapping upon the skins he sat on. This noise I was told was made by his Tornga, or spirit, and a great many questions were put to him by the bystanders; these were answered by tapping in a particular manner, and the sounds were then interpreted by the craft of the old Angetkok.

8. "A fine day; nearly all the men went out sealing, accompanied by some of the women regularly equipped for the hunt. Our people returned in the evening with the carcass of a deer; they had been ten or twelve miles to the westward, in which direction they said the land improved in vegetation; but the few living creatures which they saw were as wild as those in the vicinity of the tents.

9. "The weather being very inclement on the 9th, confined every body within the tents. In the afternoon there was a dance at the Angetkok's, where nearly the whole party was assembled. The old man opened the ball by a performance which seemed a medley of conjuring and dancing; several other men stood up after him, and last of all his son: when he had finished most of the company retired, upon which he rushed into the tent, and seizing his youngest wife by the hair beat her severely. She seemed at first inclined to resist, and took up a tin-pot, as if intending to throw it at him; he immediately kicked her out of the tent, and struck her several heavy blows with a walrus tusk. His other wife, fearing what was to follow, had placed her child in her hood, as if to protect herself from the wrath of her husband. Having satisfied his

vengeance on the young one, he rushed in again, and, snatching the child away, beat the other poor woman in a most barbarous manner over the head with some heavy weapon which he had snatched up on his entrance. She never spoke and, although streaming with blood, scarcely attempted to defend herself from his fury. Having continued to use her thus for some minutes, one of the men present held his hand, upon which he quietly seated himself and remained sulky the rest of the evening. The woman retired soon after with her child some distance from the tent, where I found her giving vent to her feelings by the most piercing cries. Two or three women stood round her who, having satisfied their curiosity, left her without shewing the slightest symptom of pity. The only cause we could discover for this brutal transaction was, because they had not sung when their husband was dancing. He took no notice of it at the time; but appears to have meditated revenge whilst seemingly wrapt up in his amusement. In the evening we found a small party assembled in the same tent to hear the different spirits whom the Angetkok was going to send into their presence. He came in soon after and, taking his station behind the screen, descended after previously putting a few questions to the bystanders. The performance differed very little from Toolemak's. Ten torngas rose in succession, some of whom did not confine themselves to speaking alone, but scratched and thumped against the skin behind the person addressed. The Angetkok's wife sung during the ceremony, but appeared to take little interest in it, and when her duties permitted directed all her attention to us. 1823. July.

"The weather was dull on the 10th, with occasional fogs. About ten A.M. there appeared a general move amongst our Esquimaux friends. On inquiry it appeared that four families were going to the eastward, whilst the party to which we were attached intended to remain another day, and then continue their journey towards Toonoonee-roochiuk. Having gone out with our guns the Esquimaux men of our party took advantage of our absence and set off for Tern Island to collect eggs; carefully concealing their intentions from us lest we should propose to accompany them. It was not until they were nearly out of sight that they told the man, who remained to look after our tent, where they were going, the idea of having deceived us seeming to afford them much amusement. 10.

"The early part of the 11th was hazy; towards noon it cleared away and became fine. We had felt rather cold during the night, which was the first we had found at all uncomfortable. Our men went away to the west- 11.

1823. July. ward in pursuit of deer; before they left the tent they informed me, that the women had mentioned their intention of continuing their journey next day towards a station where they procure fish. I made inquiries, but could hear nothing; and as it appeared from their previous conduct that they were unwilling to acquaint me with their designs, I directed the men to gather all the information they could. It was now become evident that they did not intend going direct to Toonoonee-roochiuk; but as I conceived a longer stay with them might furnish something interesting, I determined on it; more especially as the distance to Igloolik was greater than we could conveniently travel without diminishing our loads. The Esquimaux returned in the evening with a few seals, some ducks, and a great many eggs. They had emptied the latter out of their shells into walrus bladders, containing each between two and three gallons. They gave us two ducks and half a dozen eggs, an act of generosity of which they seemed to think highly, but with which we were by no means satisfied, after being disappointed of a trip to the island, where we might have collected some for ourselves.

12. "We remained stationary on the 12th, the Esquimaux stating that their dogs were too lame to travel. They buried most of their tin pots and iron hoops, which looked as if they intended returning soon. One of the women excited our attention by the ingenuity she displayed in mending a tin kettle which she had procured from the ships, and which had become unsoldered. She paid little attention to our instructions, and at length completed the task, in her own way, by suspending the kettle over the flame of the lamp, and dropping pieces of solder obtained from the rim of a meat canister, which when melted she spread with a spike-nail over the joint. In the evening we were diverted by Kooeetseearioo, who went through the whole ceremony of raising Tornga. My men put up a screen, behind which he went after some persuasion, and performed the whole of his part with great skill, particularly the diving scene, where he managed his voice so well that it really appeared to come some distance from under ground. It would seem from this that the art is not difficult and that, from the ridicule with which they seemed to treat it, they were not imposed on. The old people alone seemed to pay respect to the Angetkoks, while the young ones invariably treated their mysteries with contempt.

13. "At half-past ten A.M. on the 13th, we quitted this station, which by the mean of five meridian altitudes is in lat. 69° 42′ 29″, and by the mean of seven

sets of observations for the chronometer, in long. 00° 46′ 22″ E. of the ships' winter station. The ice was so full of cracks and holes that it was with difficulty the sledge could proceed, and it was only enabled to stand the heavy shocks it received by the looseness of its construction. Two large seals being seen on the ice, the sledges stopped while two of the Esquimaux went in pursuit of them. It was full two hours before they got close to one of them, which they effected by crawling feet foremost towards the animal; one man lying concealed behind the other who, by scraping the ice with his spear, and moving his feet in imitation of a seal's-flipper, deceived the animal until they got within six or seven yards of it. They then remained stationary some time as if to accustom the seal to them; when at length the nearest man, springing on his feet, darted his spear which however striking a bone did not take effect. Notwithstanding the quickness of the movement, the animal was half down the hole before the spear quitted the man's hand. At four o'clock, having advanced about fourteen miles along shore to the westward, the party stopped at a rocky point, where they signified their intention of remaining some days. A few miles to the westward a low point ran out with several small islands off it. Beyond this point was an extensive opening, which the Esquimaux represented to be a bay which they go up on their route to Toonoonee-roochiuk. Dunn joined us about an hour after our arrival, with the intelligence of having killed a deer five or six miles to the westward. By promising the Nerooka*, a sledge was easily procured, upon which my two men went, accompanied by one of the Esquimaux, to bring it in. Our provisions being nearly expended, I desired the men to endeavour to bargain with their companion for his sledge to carry us to Neerlonakto; whilst I also endeavoured to hire one in the event of their failure. In the evening Erichiuk and some others had a long conversation about the ships going to Toonoonee-roochiuk, an event they seemed very anxious to bring about. He persisted in saying it was practicable for them to go by a western route; and as he still continued positive after I had explained to him that we found the Strait blocked up by ice last summer, I concluded that he alluded to some other opening which the formation of the land precluded us from seeing at present. 1823. July.

"The man who had promised us his sledge the preceding evening, now Mon. 14.

* A part of the deer, before mentioned by Captain Lyon, as considered a great delicacy by these people.

1823. July. refused it, because we did not immediately comply with his demands for the deer's sinews. In consequence of this I determined, if he persisted in his refusal next morning, to construct a light sledge with our boarding-pikes to carry our baggage, which by this time was become tolerably light.

Tues. 15. "On the receipt of the sinews and some of the flesh however, he was again willing to lend his sledge the following day; we therefore prepared to move immediately after breakfast. The latitude of this station by one meridian altitude was 69° 46′ 12″ N., the longitude, by mean of two sets of sights for the chronometer, was 00° 34′ 42″ east of the ships. The Esquimaux seemed sorry to part from us, a feeling rendered reciprocal by the kindness which they had uniformly shewn us. It is but justice to say that I never experienced more attention in my life, and that their whole conduct towards us seemed expressive of a grateful feeling for the advantages which they had derived from their intercourse with the ships. Our party was increased to six by two of the natives joining us just as we were starting. The ice was tolerably smooth and had but little water on it, so that my men, who walked more than two-thirds of the way, did it without fatigue, and at half an hour past six P.M. we landed on Neerlonaktoo. Our companions, who had volunteered to carry us to the ships, were anxious to proceed, but compassion for our poor dogs would not suffer me to hear of it. Although these people were kind and attentive to us, they did not think it necessary to extend this feeling to our dogs, which were become very lame, nor would they even supply us with a piece of skin to make boots for them, without demanding an exorbitant price. Whilst on Neerlonaktoo we saw three deer and great numbers of geese and other water fowl, but they were so shy that all our attempts to get near them were ineffectual.

Wed. 16. "Leaving the island at forty-five minutes past eleven, on the 16th, we arrived on Igloolik at twenty minutes past one. Having loaded our own dogs, the Esquimaux left theirs moored to a stone, where they were to remain without food until their return; and walking across the island we reached the ships at four P.M."

CHAPTER XV.

EXTRAORDINARY DISRUPTION OF ICE IN QUILLIAM CREEK—SOME APPEARANCE OF SCURVY AMONG THE SEAMEN AND MARINES—ACCOUNT OF A JOURNEY WITH SLEDGES TO COCKBURN ISLAND—DISCOVERY OF *GIFFORD RIVER*—COMMENCE CUTTING THE ICE OUTSIDE THE SHIPS TO RELEASE THEM FROM THEIR WINTER-QUARTERS—CONSIDERATIONS RESPECTING THE RETURN OF THE EXPEDITION TO ENGLAND—UNFAVOURABLE STATE OF THE ICE AT THE EASTERN ENTRANCE OF THE STRAIT—PROCEED TO THE SOUTHWARD—SHIPS BESET AND DRIFTED UP LYON INLET—DECEASE OF MR. GEORGE FIFE—FINAL RELEASE FROM THE ICE, AND ARRIVAL IN ENGLAND—REMARKS UPON THE PRACTICABILITY OF A NORTH-WEST PASSAGE.

AMONG the various changes which the warmth of the returning summer was now producing around us, none was more remarkable than that noticed by Captain Lyon on his present excursion to Quilliam Creek, and which, in a note received from him by the return of the sledges, on the 17th, he thus describes: "Between the two points forming the entrance of the creek, we saw a high wall of ice extending immediately across from land to land, and on arriving at it found that by some extraordinary convulsion the floe had burst upwards, and that immense masses of ice had been thrown in every direction. Several blocks eight or nine feet in thickness and many yards in diameter were lying on the level solid floe; yet we were for some time at a loss to discover whence they had been ejected, till at length we found a hole or pool, which appeared so small as to be hardly capable of containing the immense fragments near it; yet from this place alone must they have been thrown." 1823. July. Thur. 17.

Captain Lyon subsequently added, that "the water, which was found to be quite fresh was running rapidly to seaward in this opening; and it seemed probable that the vast accumulation from the streams at the head of the creek, although at about ten miles' distance, had burst a passage and thus ejected the ice. The force employed for this purpose may be conceived,

when I mention that of several masses of ice one in particular was above eight feet thick, full forty yards in circumference, and lay more than five hundred yards from the pool. No traces could be found of the manner in which these bodies had been transported, as not a single small fragment was seen lying about, to warrant the supposition that they had fallen with a shock. Neither were there any marks observable on the smooth uncracked floe to cause a suspicion that they had slidden over it, the general appearance of the floe at this place being the same as at all other parts of the inlet, and bearing no marks of having had any rush of water over it."

Frid. 18. The ducks having now nearly deserted the neighbourhood of Arlagnuk, and the travelling there becoming inconvenient for sledges, our shooting-party was removed to Igloolik and shortly after recalled on board. The number of ducks procured by both ships during this part of the season was about nine hundred, of which above two-thirds were king-ducks, and by far the greater part of the rest, of the long-tailed species. The weather was now, at times extremely sultry, bringing out swarms of mosquitoes that soon became very troublesome even on board the ship. A thermometer suspended in the middle of the observatory and exposed to the sun's rays, was observed by Mr. Fisher to stand at 92° at five P.M. on the 18th.

Sat. 19. On the 19th Captain Lyon returned from Quilliam Creek, bringing with him the whole of our party stationed there, the ice being now so broken up in that neighbourhood as to render the fishing dangerous without proper boats. On this journey, which it took two days to perform, eleven dogs drew a weight of two thousand and fifty pounds, of which six hundred and forty were salmon, and ninety-five venison, procured by our people. The fish had all been caught in the trawl; and treble the quantity might easily have been taken with a seine had we known how wide the mouth of the stream was to become. They varied in length from twenty to twenty-six inches, and one of the largest, when cleaned, weighed eight pounds and a half; but their average weight in this state did not exceed two pounds and a quarter. The distance of the fishing-place from the ships, the dangerous state of the ice, and the soreness of the dogs' feet from travelling on the rough honeycombed ice, prevented our taking any further advantage of this very acceptable change of diet.

The following remarks made by Captain Lyon, during his late excursion, furnishes some information of considerable interest to naturalists. " I had in the course of my walks several opportunities of observing the nests of

many of the smaller kinds of birds. The sand-piper, (*tringa cinerea*), and the phalarope, (*phalaropus platyrinchus*), lay each four eggs on a tuft of withered grass in swampy ground; but no care is taken to form any nest. The snow-buntings and Lapland finches construct their nests in much the same manner as our English finches, and line them with white deer's hair in a very beautiful manner. The outer part is of dried grass and rather bulky compared with the size of the inner nest. Each of the last mentioned birds lays seven eggs, but the bunting prefers building in the crevice of a rock, or amongst loose stones, while the Lapland finch constructs its nest on the ground amongst grass and moss. Mr. Crozier found the nest of a snow-goose containing five eggs; and I saw seventeen of these fine birds walking on a hill side in a long line, as our domestic geese travel on commons, one acting as leader and being rather in advance of the rest. Near the lake in which these birds had been swimming I found an amazing quantity of the quill feathers of brent-geese, but saw none of the birds from which they had moulted. On the banks of the same piece of water, which was above a mile in length, I observed long ridges formed entirely of the dung of mice and in depth from four to five inches. I cannot conjecture how this could have been brought here, nor how so vast a quantity of mice could have assembled near the banks of the lake, for we saw none of their holes, and the ground being very swampy was not such as they generally frequent." 1823. July.

Although the dissolution of the ice was hourly going on, yet no very sensible alteration had taken place for some time past, such as might give us hopes of a speady release from our confinement, The barrier of ice still remaining fixed between the ships and the sea was above five miles in breadth, though we lay at the very mouth of the bay, and the only chance of our soon getting out rested on an accidental crack in the floe, extending from near the point of Oongalooyat across to the main land, and which had lately become somewhat wider. Being thus detained I determined on despatching Lieutenant Hoppner once more to the northward, for the purpose of examining a great bay or inlet of Cockburn Island, that we had never been able to approach in the ships, and which we supposed to correspond with that delineated by the Esquimaux in their charts, as forming the first day's journey to Toonoonee-roochiuk. Lieutenant Hoppner accordingly left us on the 21st with that intention, being accompanied by two men and furnished with a sledge and ten dogs. Mon. 21.

1823. July. Tues. 29. Nothing worthy of notice occurred till the 29th, when a patch of ice a mile broad separated from the outer margin of our barrier and drifted away. The canal formed by laying sand on the ice was now quite through in most places, shewing that the plan would, in this latitude at least, always ensure a ship's escape at an earlier season than by the regular course of nature, provided it could be carried the whole way down to the open water.

Wed. 30. I am now under the disagreeable necessity of entering on a subject, which I had at one time ventured to hope need scarcely have occupied any part of this Narrative: I mean that of the scurvy, some slight, but unequivocal, symptoms of which disease were this day reported to me by Mr. Edwards, to have appeared among four or five of the Fury's men, rendering it necessary, for the first time during the voyage, to have recourse to anti-scorbutic treatment among the seamen or marines. During our first winter, the only instance in which any such symptoms had been discovered occurred in Mr. Jermain, the purser of the Hecla, who however recovered by the usual treatment, as the summer advanced. This short and dubious season being ended, the carpenter and boatswain of the Hecla were also affected; and in the course of the second winter Mr. Jermain's complaint returned with greater severity. In the months of February and March, Messrs. Henderson, Halse, and Scallon, of the Fury, were occasionally disposed to scurvy; Mr. Edwards was for a week or two pretty severely attacked by it, and my own gums becoming somewhat livid rendered a short course of additional lemon-juice necessary to restore them. These cases however shortly and permanently recovered; but in the spring and even as late as the month of June, when there was reason to hope that every symptom of this kind would have been removed by the increased warmth and cheerfulness of the season, and the change of diet afforded by the game, the disease again made its appearance in the carpenter and boatswain of the Hecla, and soon after attacked the gunner and Mr. Fife, the Greenland master. These cases which were much more severe than any we had before experienced, had not now recovered, when the gums of four or five of the Fury's men betrayed this insidious disease lurking within them, and made it necessary to administer lemon-juice to them in more copious quantities than ordinary.

It will perhaps be considered a curious and singular fact in the history of sea-scurvy, that during the whole of the preceding part of this voyage, none

amongst us but officers should have been in the slightest degree affected by it, a circumstance directly contrary to former experience. To whatever causes this might be attributed, it could not however but be highly gratifying to be thus assured, that the various means employed to preserve the health of the seamen and marines had proved even beyond expectation efficacious. 1823. July.

That a ship's company should begin to evince symptoms of scurvy after twenty-seven months' entire dependence upon the resources contained within their ship, (an experiment hitherto unknown, perhaps, in the annals of navigation, even for one-fourth part of that period,) could scarcely indeed be a subject of wonder, though it was at this particular time a matter of very sincere regret. From the health enjoyed by our people during two successive winters, unassisted as we had been by any supply of *fresh* anti-scorbutic plants or other vegetables, I had begun to indulge a hope that with a continued attention to their comforts, cleanliness, and exercise, the same degree of vigour might, humanly speaking, be ensured at least as long as our present liberal resources should last. Present appearances however seemed to indicate differently; for though our sick-list had scarcely a name upon it, and almost every individual was performing his accustomed duty, yet we had at length been impressed with the unpleasant conviction that a strong predisposition to disease existed among us, and that no very powerful exciting cause was wanting to render it more seriously apparent. Such a conviction at the present crisis was peculiarly disagreeable; for I could not but lament any circumstance tending to weaken the confidence in our strength and resources at a time when more than ordinary exertion was about to be required at our hands.

In the afternoon of the 30th, Lieutenant Hoppner and his party returned on board, having discovered that the inlet in question communicated with a considerable river, which we jointly named after our mutual and highly-esteemed friend Mr. Gifford. Lieutenant Hoppner's account of his journey is here subjoined.

"At a quarter past four we left the Hecla, and having reached the head of the bay at half-past six, the party who were there in readiness carried the sledge across the isthmus; after which service they returned to the ship. The fog was now so thick that it was impossible to proceed towards Neerlonakto, we therefore kept along the land-ice of Igloolik, when supposing 21.

1823. July. ourselves nearly abreast of the former island, we went on shore to wait for better weather.

22. "Thick foggy weather continued until four P.M., on the 22d, when, it becoming clearer, we recommenced our journey, passing between Neerlo-naktoo and three small whitish islands off its south-west end, which at a distance are easily mistaken for hummocks of 'dirty' ice. The ice afterwards began to improve; but we were obliged by several wide cracks extending from Neerlo-naktoo to the west land and the islands in Richards's Bay, to go some distance round to find parts sufficiently narrow to cross. At eleven P.M. we pitched our tent on the north-east island in Richards's Bay; the ice was so much broken up all round it that it was with difficulty we landed.

23. "It rained hard all night, with thick hazy weather which did not clear away until noon the following day. We immediately prepared to move; but it was twenty-five minutes past one P.M. before we got away, owing to the time taken up in shoeing the dogs, which for two people was a tedious operation. We stood directly over towards the north land, finding the ice so bad for the first six or seven miles as to make it reasonable to expect that a very few days would render it impassable. Towards the centre of the strait it became very good, and continued so until we got near the north shore, where we found it in much the same state as on the opposite side. Several of the cracks extended from land to land, and were so wide as to cause us much perplexity in crossing them. At a quarter past nine we landed on a low sandy beach which forms the south-east point of the opening we saw to the north-west, when on our former journey with the Esquimaux.

24. "The weather during the early part of the day was tolerably fine, but in the afternoon became foggy, with heavy showers of rain. The dogs being a good deal fagged, I determined to give them a day's rest, expecting we should be able to ascertain the extent of the inlet on foot. Having waited without success to get the meridian altitude, I walked up the inlet and, crossing the two first points of land, picked up a piece of fresh skin, which convinced me that our friends the Esquimaux had not much the start of us. A high mount on the south side, about twelve or fourteen miles distant, becoming a very prominent object, I made towards it, hoping from thence to see the termination of the inlet, which here varied from one to three miles in breadth. At five P.M., finding the hill above-mentioned still too distant for me to reach on foot, I landed on the right-hand shore, from whence the opening appeared to extend at

least a day's journey for the sledge, continuing about the same breadth and not appearing to terminate even at the furthest point seen. After resting a short time, I returned towards the tent, determining, if our people had killed any thing which would furnish a supply of food for the dogs, to run up with the sledge next day, and if possible reach its termination. Having walked about five miles back, I discovered an Esquimaux tent on the north side, which being pitched behind a point had escaped my notice on passing up, and which proved to belong to some of our old friends. As the want of food for the dogs had made me fearful we should be obliged to abandon our object before its accomplishment, I immediately bargained with them for a supply, promising to visit them the next day. They had a few pieces of very fine looking fish drying on the rocks. After stopping with them about ten minutes I took my leave, and, on reaching the point next above our tent, found that the rest of the Esquimaux had arrived during my absence.

"At twenty minutes past twelve on the 25th we struck our tent and proceeded up the inlet, stopping a few minutes at the first point, where we purchased some meat for the dogs, and got the promise of a seal on our return. At three P.M. we arrived at the tent of Erichiuk, from whom we purchased some more meat and a very fine salmon. The Esquimaux told us we might reach the head of the inlet to-day; we therefore left one of our dogs which was lame in Erichiuk's charge, and resumed our journey, with the intention of lightening the sledge at the first convenient place. At four P.M., having reached two small islets situated nearly in mid-channel, we buried whatever we could well spare, to ensure the accomplishment of our object; and having stopped half an hour to refresh ourselves, we set off at a quick pace. The weather was so thick that it was but very rarely we got a glimpse of the shores on each side of us; when we did, they seemed rocky and steep; but a short distance from the beach the land appeared well clothed with vegetation. As we advanced the ice became very thin and rotten, and gave indications of our approach to its termination: at length, about half past nine, we found ourselves within fifty yards of the water, and were obliged to pick our way to the shore over a very rotten surface. On landing we were gratified by the sight of a noble sheet of water, a mile and a half in breadth and perfectly fresh. The tide was out, but there was no current perceptible in the middle, nor

25.

1823. July. did we notice any during the whole time of our stay. The Esquimaux had informed us of a large fall, but as we neither saw nor heard any thing of it, it must be a good way higher up, our point of view extending full fifteen miles, when it terminated in two bluff points, between which the stream seemed to wind. To these points, to all appearance, it continued about the same breadth, and from the colour of the water it must be deep enough for ships of large burden. The land on each side was high, and where we stood was more closely covered with vegetation than any spot I had ever seen in these regions. The dwarf willow grew to a height and size almost entitling it to be called a shrub, and the *Andromeda tetragona* was in the greatest abundance.

26 "On the 26th I sent one of my men to the top of a high hill behind our tent, but his view from thence was not more extensive than what we had already procured. After stopping to get the meridional altitude, which gave the lat. 70° 06′ 42″ N., the longitude, by chronometer, being 0° 39′ 48″ W. of the ships, we set out on our return. As the ice was broken up for two miles below us, we endeavoured to get on the solid floe by a narrow neck about one hundred yards broad; but having got half way it proved so thin and rotten that I considered it better to return, than to run the risk of crossing it. The dogs dragged the sledge along shore until we came to the firm ice, performing their task much better than we expected. We now returned down the river, and, having picked up the things left on the island, arrived at the Esquimaux tents at half-past eight. They received us very kindly, assisting to unload the sledge and carry the things to the top of the hill. We purchased of them some very fine salmon, which they caught in a small rivulet emptying itself into a bay about a quarter of a mile from the tents.

27. "The 27th proving a fine day, the men all went out with their fishing-spears at high-water, but returned in a short time, saying there were no fish, from which it is probable that they only come here occasionally, resorting at other times to other places of the same description, with which the river abounds. The latitude of this station is 70° 0′ 13″ N.; longitude, by chronometer, 0° 5′ 40″ W. of the ships. We left our friends about one P.M.; they continued civil to the last, although the temptation to rob us was too great for them to resist. This, however, they did in a sly sort of way, removing things from where we had placed them with the idea, perhaps, that we should not miss

them until we had taken our departure. On tasting the water at this station, which is not more than seven or eight miles from the mouth of the opening, it proved nearly fresh. We kept close along the north shore, passing over very bad ice, with cracks extending across to the eastern part of the Strait. It appeared only to want a strong breeze from the westward to drive it out, as it was quite detached from the land. At nine P.M. we landed on a small rocky island, the easternmost of a group about fifteen miles from the spot where we left the Esquimaux on our former journey. From this point I could see both the places we visited during that trip, and could now clearly ascertain that the land was connected; as the only part which had been doubtful was in a bay formed by the north-eastern point of the river, and another about five miles to the westward of our present station, where (the land being rather low) there was an appearance of an opening; this day's journey, however, proved the continuity of the coast. Our time being limited, I did not think it worth while going any further to the eastward; but as the dogs would require a day's rest previously to carrying us over to Igloolik, I determined to remain here until the 29th for that purpose. 1823. July.

"The weather was so thick that it was not until past ten on the 29th that we left the north land, and at seven arrived on the west end of Neerlo-naktoo, where we stopped for the night, our dogs being too much tired to proceed. We found the ice in coming over far better than I expected. It was however separated from both lands by wide cracks, and did not average more than two feet in thickness as far as I could judge; it appeared nearly in the same state as last year at this season. 29.

"Leaving Neerlo-naktoo at half-past eleven on the 30th, we reached Igloolik at two P.M. The ice between the two islands was almost impassable for a sledge in some places, but the pools were all frozen over, for the first time, during the last night. We found great difficulty in landing on Igloolik, the ice having broken up into detached pieces along its shores. In getting the sledge across from one end to the other, we were frequently near losing it, the dogs having to swim across several of the spaces between the broken pieces of ice. Having crossed the isthmus, we got sight of the ships and arrived on board about four P.M." 30.

The first of August had now arrived; and yet, incredible as it may appear, the ships were as securely confined in the ice as in the middle of winter, ex- August. Frid. 1.

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, at Igloolik, during the Month of *July*, 1823.

Day	Fahrenheit's Thermometer.			Barometer.			Prevailing Winds.		Prevailing Weather.
	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Direction.	Velocity	
	°	°	°	inches	inches	inches			
1	43	35	39.03	29.59	29.56	29.582	WNW	modt.	cloudy
2	44	30	36.67	29.55	29.30	29.385	West	fresh	cloudy
3	40	34	36.50	29.49	29.30	29.410	NW	fresh	rain
4	41	36	37.96	29.50	29.40	29.475	NW	fresh	cloudy
5	44	34	37.67	29.40	29.36	29.375	NNW	modt.	cloudy, rain at times
6	42	34	37.67	29.34	29.24	29.300	North	modt.	cloudy, rain at times
7	45	33	39.17	29.40	29.20	29.207	SE	light	cloudy and rain
8	41	33	37.00	29.38	29.06	29.252	NNE	modt.	cloudy
9	37	32	34.42	29.02	28.90	28.957	NbW	modt.	cloudy and rain
10	48	34	39.58	29.38	29.08	29.220	S Easterly	light	hazy and rain
11	41	33	38.17	29.77	29.57	29.685	SE	fresh	cloudy
12	37	32	35.58	29.97	29.78	29.802	SE	modt.	cloudy
13	47	33	38.80	29.98	29.90	29.942	SE	modt.	cloudy
14	47	37	40.37	29.96	29.93	29.947	SE	light	fine
15	55	36	45.80	29.95	29.87	29.910	Calm	calm	fine
16	52	38	45.75	29.84	29.80	29.823	North	light	fine
17	58	40	49.75	29.82	29.80	29.808	Calm	calm	fine
18	58	46	51.83	29.76	29.70	29.727	SE	light	cloudy
19	59	39	50.33	29.68	29.60	29.660	SE	light	fine
20	41	36	39.25	29.54	29.40	29.487	ESE	modt.	cloudy and rain
21	52	31	40.08	29.52	29.36	29.400	SE	light	foggy and rain
22	40	34	37.92	29.34	29.30	29.307	North	light	foggy and rain
23	46	35	39.17	29.42	29.32	29.368	NW	light	foggy and rain
24	49	36	39.92	29.57	29.42	29.515	NE	light	foggy and rain
25	47	34	39.58	29.59	29.55	29.578	SE	light	hazy and rain
26	42	35	38.67	29.53	29.44	29.480	NNE. round by East to SSE.	light	cloudy
27	55	36	43.17	29.64	29.60	29.612	Calm	calm	hazy
28	44	35	38.58	29.69	29.55	29.622	SSE	modt.	hazy and rain
29	50	32	40.42	29.60	29.46	29.505	NW	modt.	cloudy
30	42	31	36.25	29.60	29.55	29.583	SSE	modt.	cloudy
31	42	31	36.17	29.68	29.48	29.526	SSE	modt.	hazy and rain
	59	30	40.04	29.98	28.90	29.535			

cept that a pool of water about twice their own length in diameter was now open around them *. I determined, therefore, notwithstanding the apparent hopelessness of sawing our way through four or five miles of ice, to begin that laborious process; not indeed with the hope of cutting a canal sufficiently large to allow the passage of the ships to sea, but with a view to weaken it so much as, in some measure, to assist its disruption whenever any swell should set in upon its margin. On this and the following day, therefore, all the gear was carried down for that purpose, and a large tent pitched for the ships' companies to dine in, the distance being too great to allow them to return on board to their meals. On the 3d, however, we were saved a great deal of unnecessary labour, by the ice opening out at the crack before mentioned, so that our sawing might now be commenced within a mile of the Fury. After divine service, therefore, all hands were sent from both ships to bring back the tent and tools to the point of Oongalooyat, and the parties were recalled from the walrus-fishery, except a single boat's crew: these also returned on board a few days after, the whole number of sea-horses killed being eight, and one large seal. It is remarkable that all the walruses were males, of which a skeleton was made on board each ship as anatomical specimens. The Hecla's two boats had one day a very narrow escape in assaulting a herd of these animals; for several of them, being wounded, made so fierce an attack on the boats with their tusks, as to stave them in a number of places, by which one was immediately swamped and the other much damaged. The Fury's boats being fortunately in sight prevented any further danger; two of the walruses were killed and secured, and the damaged boats lightened and towed to the shore, from which they had been several miles distant.

1823. July.

Sat. 2.

Sun. 3.

On the 4th our sawing work was commenced, with the usual alacrity on the part of the officers and men, and three hundred and fifty yards of ice were got out before night, its thickness varying from one to four feet, but very irregular on account of the numerous pools and holes. An equal length was accomplished on the following day, though not without excessive fatigue and constant wet to the men, several of whom fell into the water by the ice breaking under them.

Mon. 4.

* This circumstance afforded a very favourable opportunity of obtaining a complete set of steady observations on the deviation of the magnetic needle on board the Fury; these are given in the Appendix.

1823. August. Tues. 5. On the 5th, the register-thermometer, which had been placed in the ground in the winter, was taken up, though, to our astonishment, the ground above and about it had become nearly as hard and compactly frozen as when we dug the hole to put it down. How this came about we were quite at a loss to determine; for the earth had been thrown in quite loosely, whereas its present consolidated state implied its having been thoroughly thawed and frozen again. It occupied two men ten days to extricate it, which, as they approached the thermometer, was done by a chisel and mallet to avoid injury by jarring. This, however, was not sufficient to prevent mischief, the instrument being so identified with the frozen earth, as to render it impossible to strike the ground near it without communicating the shock to the tubes, two of which were in consequence found to be broken. Thus ended our experiment for ascertaining the temperature of the earth during the winter; an experiment which it would seem, from this attempt, scarcely practicable to make in any satisfactory manner without some apparatus constructed expressly for the purpose.

Wed. 6. On the 6th, the work was continued as before, and about four hundred yards of ice were sawn through and floated out, leaving now a broad canal, eleven hundred yards in length, leading from the open water towards that formed by the gravelled space. In the course of this day's work, one of the seamen of the Hecla fell into the water by the ice giving way, and very narrowly escaped drowning, as it was not easy for the other people to approach him. He was taken out scarcely sensible; but being immediately conveyed on board the Fury was by care and attention recovered in a few hours.

Thur. 7. When the lateness of the season to which the ships had now been detained in the ice is considered, with reference to the probability of the Fury's effecting any thing of importance during the short remainder of the present summer, it will not be wondered at that, coupling this consideration with that of the health of my officers and men, I began to entertain doubts whether it would still be prudent to adopt the intended measure of remaining out in the Fury as a single ship; whether, in short, under existing circumstances, the probable evil did not far outweigh the possible good. In order to assist my own judgment on this occasion upon one of the most material points, I requested the medical officers of the Fury to furnish me with their opinions "as to the probable effect that a third winter passed in these regions would produce on the health of the officers, seamen, and marines of that ship, taking into consideration every circumstance connected with our situation."

Mr. Edwards's reply, with which in substance that of Mr. Skeoch coincided, is here given, as being at once more concise as to expression, and of infinitely greater weight as to opinion, than any remarks I could myself have offered on this subject. 1823. August.

"During the last winter and subsequently, the aspect of the crew of the Fury in general, together with the increased number and character of their complaints, strongly indicated that the peculiarity of the climate and service was slowly effecting a serious decay of their constitutional powers. The recent appearance also of several cases of incipient scurvy in the most favourable month of the year, and occurring after a more liberal and continued use of fresh animal food than we can calculate upon procuring hereafter, are confirmatory proofs of the progression of the evil.

"With a tolerable prospect of eventual success, other circumstances remaining unchanged, I should yet expect an increase of general debility, with a corresponding degree of sickness, though at the same time confident of our resources being equal to obviate serious consequences. But considering the matter in the other point of view, namely, as a single ship, it assumes a much more important shape. It is not necessary that I should dwell on the altered circumstances in which the crew would then be placed, as they are such as you must long ago have foreseen and weighed. I allude to the increase of labour and exposure resulting from the separation of the vessels, the privation of many salutary occupations, mental and corporeal, attending their union, and, I may add, at this late period of the season, the hopelessness of the success of the ensuing navigation being such as to excite feelings sufficiently lively to counteract those depressing causes. It is impossible, in fact, to reflect on the subject and not to apprehend a less favourable result than might be expected under the preceding conditions."

Enclosing to Captain Lyon the replies of the medical gentlemen, I now also requested his opinion whether, under existing circumstances, he still considered it expedient to adopt the measure originally intended, with respect to the separation of the two ships. I had scarcely despatched a letter to this effect when, at ten A.M. on the 8th, the ice about the Fury began to move, the pools breaking up, and the gravelled canal soon entirely closing. A breeze springing up from the northward at this time, all sail was made upon the ship, and the ice gradually driving out as it detached itself from the shore, the Fury got into open water about one P.M. The Hecla, however, still remained in the middle of her winter's floe, which, though it moved a

1823. August. little with the rest at first, did not come out of the bay. In the course of the afternoon, finding her still stationary, I determined to occupy the time in stretching over to the northward, for the purpose of examining the state of the fixed ice at the eastern mouth of the strait; and arriving at its margin by ten P.M. found it attached to both shores from the north-eastern part of Neerlo-naktoo across to Murray Maxwell Inlet. It was the general opinion that this ice was in a more solid state than at the same time and place the preceding year, but its situation did not I believe differ half a mile from what it had then been. As the sun went down nearly in the direction of the Strait, we obtained from the mast-head a distinct and extensive view in that quarter, and it is impossible to conceive a more hopeless prospect than this now presented. One vast expanse of level solid ice occupied the whole extent of sea visible to the westward, and the eye wearied itself in vain to discover a single break upon its surface.

Having finished this examination, which at once destroyed every hope I had never ceased to indulge of a passage through the Strait, we returned towards Igloolik to rejoin the Hecla. It was not, however, till the morning of the 9th that we observed her to be moving out of the bay; when at length (for the first time perhaps that such an event ever occurred,) she drove to sea in the middle of the floe. Thus at the mercy of the ice, she was carried over the shoals off the south-east point off Igloolik in six and a half fathoms, but was then fortunately drifted into deeper water. The swell on the outside was all that was wanting to break up her icy prison, which separating at seven A.M. finally released her from confinement.

Having soon afterwards received Captain Lyon's answer to my communication, it was necessary for me to come to a final determination on the subject therein alluded to. I shall first however insert Captain Lyon's reply, both because it is proper that his opinion should be recorded, and because it is impossible for me either more clearly or more briefly to communicate the substance of my own.

"As I consider the health of your crew as of most importance in every point of view, I shall in the first place state that, independently of the weighty opinions of your medical officers, it has for some time been my opinion that the Fury's passing a third winter in this country would be extremely hazardous. I am induced thus to express myself from the great change I have observed in the constitution of the officers and men of the Hecla, and by the appearance of some very severe cases of scurvy *since* the summer has com-

menced; I am also aware that the same scorbutic symptoms have been noticed, and do still exist, in the Fury. 1823. August.

"Our long continuance on one particular diet, almost total deprivation of fresh animal and vegetable food for above two years, and the necessary and close confinement for several months of each severe winter, are undoubtedly the causes of the general alteration of constitution which has for some time past been so evident. I therefore conceive that a continued exposure to the same deprivations and confinements, the solitude of a single ship, and the painful monotony of a third winter to men whose health is precarious, would in all probability be attended with very serious consequences.

"When at the commencement of the last winter I gave it as my opinion, that the service would be benefited by your remaining out in the Fury, as you proposed, and still attempting a further passage to the westward, I did not anticipate so long a confinement in the ice as we have unfortunately experienced, and formed my opinion on the supposition, and in the full expectation that we should be at liberty about the 1st of July of this year, and that the general good health which then prevailed would still continue. From our being detained until the present time, however, I am of opinion that the season in which it is possible to navigate has now so far passed, that nothing material can be effected either by one or both ships. We know from the experience of last year, that it is not before the end of August or the beginning of September that the ice breaks up in the Strait of the Fury and Hecla, and that it is not until that period that you will be enabled to re-examine its western entrance. Even when you should have done so and, as there is every reason to expect, found it still closed, you would have barely sufficient time to return to Igloolik to pass another winter. Again, should the sea prove open to the south-eastward, and should you deem it expedient to attempt, by rounding the very extensive land in that direction, to find some other passage to the westward, I conceive that the extreme lateness of the season would not admit of your making discoveries of any importance, or at all events of such importance as to warrant your passing a third winter, at the risk of the safety of your officers and crew.

"Having now stated my reasons for changing my former opinion, I beg to advise that the Fury and Hecla return to England together as soon as such arrangements respecting the removal of stores and provisions as you may judge proper to make shall be completed."

Under such circumstances, to which may be added the uncertainty of

1823. August. the Hecla's liberation from the ice to the southward before the close of the season, I no longer considered it prudent or justifiable, upon the slender chance of eventual success now before us, to risk the safety of the officers and men committed to my charge, and whom it was now my first wish to re-conduct in good health to their country and their friends. Having communicated my intentions to the officers and ships' companies, I directed several additions to be made to their ordinary allowance of provisions, particularly in the various anti-scorbutics, which had hitherto been reserved for cases of emergency; and then beating up to our winter station which, by desire of Mr. Fisher, our Chaplain and Astronomer, I named TURTON BAY, we anchored there in the afternoon in ten fathoms, and immediately commenced our preparations for lightening the Fury. Seven months' provisions, a bower anchor, and a few other stores were received by the Hecla, some of her water before filled as ballast being started to make room for them; and such other arrangements made as circumstances would permit for improving the stowage of the Fury's hold. The bay was now entirely clear of ice in every part; and so changed was its appearance in the course of the last four-and-twenty hours, that it was scarcely possible to believe it the same place that we had been accustomed daily to look upon for the ten preceding months.

The conveyance and stowage of the stores had scarcely been completed, when some loose ice drifting into the bay with the tide, on the night of the
Sun. 10. 10th, obliged us hastily to get under way and stand out. On the following
Mon. 11. morning I ran across to the main-land in the Fury, for the purpose of erecting, in compliance with my instructions, a flag-staff fifty-six feet in height, having at its top a ball made of iron hoops and canvass, ten feet in diameter, and a cylinder buried near its foot, containing a parchment with some account of our visit to this place. In the mean time, I requested Captain Lyon to stand over to the point of Igloolik where our walruses had been landed, and to bring off these as well as our boats and tents remaining there. The ice soon after coming in upon the point, it was not without risk of the Hecla's being dangerously beset, that Captain Lyon succeeded in bringing off every thing but one boat. This was indeed no great loss to us, though a great acquisition to the Esquimaux, for being almost worn out, I had intended to break her up previously to leaving the ice. Besides this we purposely left our sledges, and a quantity of wood in pieces of a convenient size for bows, spears, and paddles, distributing them about in

several places, that one or two individuals might not make a prize of the whole. 1823. August.

The Hecla rejoining us on the morning of the 12th, we stood out to the eastward and finally took our departure from Igloolik. In the forenoon a thick fog came on, which, with a good deal of loose ice drifting about, gave us some trouble in clearing the land; after which we made the Calthorpe Islands, the wind being southerly with thick rainy weather. This continued till the following afternoon, when a change of wind soon brought a clearer atmosphere, enabling us to bear up for the main-land, which we made near the three islands called Ooglit, and then ran along it to the southward in a perfectly open sea. We saw here a great many walruses, but no animals of any other kind. In the course of the night the favourable breeze failed us and, on the morning of the 14th, was succeeded by a southerly wind, the ships being close to another island called Ooglit about twelve leagues to the S.S.W. of the others. We were here immediately visited by our old acquaintance the Esquimaux, several of whom came off in their canoes in the course of the morning, as if determined to lose no opportunity of profiting by us. Among these was our worthy old friend Nannow, to whom every body was glad to give something; and indeed they all received as many presents as their canoes could safely carry or tow on shore. Their tents, nine in number, were pitched on the main-land, a little to the northward of Ooglitt, at a station they call *Ag-wisse-ō-wik*, of which we had often heard them speak at Igloolik. They now also pointed out to us Amitioke, at the distance of four or five leagues to the southward and westward, which proved to be the same piece of low land that we had taken for it in first coming up this coast. The Esquimaux told us that a number of their younger men were inland in pursuit of deer, and that the rest had abundant supplies of walrus, which animals we saw in considerable numbers about this place.

Tues. 12.

Wed. 13.

Thur. 14.

The failure of the wind was not the only cause of our detention here; the ice, whose margin we had begun to perceive as we approached this part of the coast, now closing in completely with the land, so as to prevent the possibility of our making any farther progress for the present. The closeness of the main body of ice to the land at this time, compared with its position a month earlier the preceding year, was undoubtedly to be attributed to the prevalence of southerly and easterly winds which we had lately experienced,

1823. August. while those from the opposite quarter could alone drive it off the land. The ice was here very heavy, being covered with large hummocks, reminding us of what we had to encounter in coming up this coast. It was also covered in almost every part with sand and small stones, making its general aspect of a brownish colour, only a few patches of white ice appearing here and there. How these substances had been brought here in such abundance, another year's experience of the phenomena of these seas had not taught us to explain; and before we left this coast, we saw many hundred square miles of ice thus covered. In all the intervals between the hummocks were large pools of water, which had in many instances formed deep circular beds, twenty or thirty feet in diameter, in shape like the crater of a volcano. Most of the pools had found their way through to the sea below, and the smallest swell would have broken every floe-piece into numberless masses: indeed, as it was, there were few to be seen of more than three or four acres in extent.

Being thus detained, I despatched Mr. Ross to Ooglit to observe the meridian altitude, which gave the latitude of its south point 68° 23′ 58″, and he found the mineralogical character exactly the same as that of Igloolik. About the middle of the island, which is quite low, are two bone winter-huts, conspicuous at some distance to seaward. It was low water at half-past eleven A.M., making the time of high water here on full and change days a quarter past eleven.

15 to 21. We were now for some days all but beset in this neighbourhood, calms or light southerly and easterly breezes constantly prevailing. During this time the main body of ice remained, in most parts, close to the shore; leaving us only a "hole" of water to work about in, and much nearer to the land than on this shoal and shelving coast was altogether safe for the ships. Notwithstanding this, however, we had soon occasion to observe that they not only kept their ground, but even drew to the southward, owing no doubt to the current before found to set in that direction along the coast.

Frid. 22. On the morning of the 22d, being off Amitioke, the ice became more slack along the shore, and a breeze from the northward enabled us to make some progress. I may here take occasion to remark that, in the course of this summer, we experienced not only an unusual proportion of southerly and easterly winds, but observed also, that these were more frequently attended

with clear weather than is generally the case; while on the other hand a great deal of close thick weather occurred with breezes from the northern quarter. The present northerly wind had scarcely sprung up an hour before a thick fog came on, frequently obscuring the land from us as we ran along, at the distance of half a mile to a mile and a half. Thus circumstanced, the Fury was once in the course of the day placed in a very awkward situation, the water quickly shoaling to six fathoms, and the ice preventing for a time the possibility of hauling out. Having at length gained an offing of a couple of miles, we were obliged to make the ships fast to a floe-piece, the ice entirely closing around us. 1823. August.

Continuing to drift to the southward, we observed on the 23d, in latitude 67° 40′ 18″ Cape Brown bearing S.E.b.S., five or six miles distant. On the following day at noon we had passed Cape Penrhyn, our drift having been twenty-one miles in twenty-four hours, though closely beset, and without a single pool of water in sight the whole time. The current was observed to be particularly strong when immediately off Cape Penrhyn, taking the ships round that headland at the rate of two or three knots for one hour. In the night of the 24th, we drifted out to the distance of nine or ten miles from the land; and on the 25th at noon had reached the latitude of 67° 17′ 28,″ being rather to the southward of the Barrow River. It was probably the influence of this stream that caused the ships thus to set off from the land, this being the only instance in which they did so. The ice was also rather more slack here, of which circumstance we took advantage to warp the ships a mile nearer in shore; it was, however, still of the same heavy kind as before. Scarcely a single bird had been seen since leaving Igloolik, and the walruses were extremely rare on this coast, to the southward of Amitioke. Sat. 23. Sun. 24. Mon. 25.

The ice remained close the whole of the 26th; but we continued as usual to drift generally to the southward, and the next morning being off Owlitteeweek, were enabled to cast off and make sail, the ice being rather more open than before. Being favoured by a commanding northerly breeze we ran a considerable distance to the southward, having however only just room to sail between the points of the closely packed ice and a flat dangerous shore. A few small low islands were here discovered and added to the chart. In the evening we were once more arrested in our progress and obliged to make fast, being two or three miles short of Point Elizabeth, and within three quarters of a mile of the shore. On the making of the flood-tide at night, the ships were hurried past the point in seven fathoms, and not having been able Tues. 26. Wed. 27.

1823. August. to make fast to the same floe-piece were now separated a mile or two and soon again beset. Without escaping for a moment from our confined situation,
Sat. 30. and almost without perceiving any motion of the masses of ice among themselves, we had at noon on the 30th drifted down within a mile of a small island, lying near the north-east point of Winter Island, and which I now
Sun. 31. named after Mr. Crawford. On the 31st the tide took us through between these, the breadth of the passage being three-quarters of a mile, in no less than sixteen fathoms water. We then passed within a dangerous reef of rocks lying a full mile from the shore, and having numerous heavy masses of grounded ice upon it. After clearing this in a good depth of water we were, by the evening, carried along shore within a mile of Cape Fisher. Being desirous of seeing whether the Esquimaux had meddled with the tombs of our departed shipmates, I despatched a party on shore over the loose ice, and was glad to find on their return, which was not accomplished without difficulty, that both were in good order. Among the specimens of plants which Mr. Ross brought on board were some radishes, onions, and mustard and cress, found at our gardens. The onions had a very pungent smell and taste, and the whole were in that healthy state which, however dwarfish their growth, would have rendered them very acceptable if more abundant. The Esquimaux had certainly visited the island since our departure, as several tin canisters, left for them on a particular spot, had been removed.

Thus had we, in a most singular manner, once more arrived at our old winter-quarters, with scarcely a single successful exertion on our parts towards effecting that object. The distance from Ooglit to our present station was about one hundred and sixty miles along the coast. Of this we had never *sailed* above forty, the rest of the distance having been accomplished while we were immoveably beset by mere drifting. The interval thus employed having been barely eight days, gives an average drift to the southward of above fifteen miles per day.

The phenomena of the tides had now been precisely similar to those before observed on this coast, and may be stated in few words. The flood-tide comes from the northward, but is aided also by a current from the same quarter, rendering its stream both stronger and of longer duration than that of the ebb. The latter is indeed scarcely perceptible with a northerly breeze, and even with the wind from the southward does not usually affect a ship's drift for more than three hours each tide. This being the case, I do not know how a ship could effect a passage along this coast to the

northward, after the land-ice has once been detached from the shores; for having nothing by which to hold on, whenever the ice closes, she can only have the alternative of running into it or of being driven on shore. In the former case she would in all probability, as we have seen, be drifted back to the southward at the rate of about fifteen miles per day, and in the latter could scarcely contrive to escape without serious damage. 1823. August.

At daylight on the 1st of September we found ourselves within three or four hundred yards of the rocks on the eastern side of Winter Island, the soundings having gradually decreased to eleven fathoms. Had it remained dark an hour longer the Fury would in all probability have gone on shore; but happily the ice was slack enough to allow us to warp clear of danger soon after day-break. The Hecla had in the mean time been drifted round Cape Fisher, and several miles to the westward towards Lyon Inlet, in which direction the Fury was also carried in the afternoon. The wind now setting in easterly, both ships drove with the ice up the inlet, and on the 4th were abreast of Safety Cove, though fortunately on the western side, clear of the dangers of the Bay of Shoals. A light breeze then springing up from the north-west, we again began to move down the inlet; and on the evening of the 6th, after making a little progress with the sails in the course of the last two days, were once more met by an easterly breeze off Cape Edwards, the ice being still as closely packed as possible. The young ice also began at times to annoy us, by forming to a considerable thickness at night, so as to cement the larger masses strongly together. The weather now became chilly immediately after sunset, and we considered it rather a premature decrease of temperature in this latitude, when the thermometer was observed to fall to 24° on the morning of the 31st of August. A very unusual deposition of dew took place every evening about this season, immediately after the sun had set, and was in an hour or two converted into hoar frost.

Sept. Mon. 1. Wed. 3. Thur. 4. Sat. 6.

In the afternoon of the 6th I was much pained at being informed by telegraph from the Hecla, that Mr. Fife, Greenland Master of that ship, had just expired, an event which for some days past there had been but too much reason to apprehend; the scurvy having within the last three weeks continued to increase considerably upon him. It is proper for me, however, both in justice to the medical Officers under whose skilful and humane care he was placed, and to the means with which we were in this way so liberally supplied, to state that during a part of that time Mr. Fife had taken so great a dislike to the various anti-scorbutics which were administered to him, that

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, during the Month of *August*, 1823.

Day	Place.	Fahrenheit's Thermometer. Maximum.	Minimum.	Mean.	Mean Temp. of sea-water.	Barometer. Maximum.	Minimum.	Mean.	Prevailing Winds. Direction.	Velocity.	Prevailing Weather.
		°	°	°		inches	inches	inches			
1	At or near the Island of Igloolik.	+4	+31	+36.92		29.95	29.70	29.792	SE	modt.	hazy, rain
2		52	30	38.67		30.03	29.90	29.905	SE	light	cloudy
3		55	34	45.40		29.97	29.93	29.942	East	light	fine
4		52	37	43.90		29.93	29.87	29.900	NNW	light	fine
5		51	35	42.92		29.91	29.87	29.890	a.m. NNW p.m. SSE.	light	fine
6		54	36	44.58		29.93	29.90	29.908	S. Westerly	light	fine
7		54	40	45.92		29.90	29.70	29.810	NNE	light	clear
8		52	34	40.92		29.68	29.56	29.628	NNE	modt.	cloudy
9		42	33	36.83	32.08	29.62	29.50	29.560	WNW	fresh	cloudy
10		44	32	39.18	32.25	29.66	29.57	29.615	NW	modt.	fine
11		44	32	38.17	32.88	29.78	29.70	29.747	a. m. NW p. m. SE	light	fine
12		35	33	34.00	31.83	29.74	29.45	29.577	SE	modt.	hazy with rain
13	On the passage down the eastern coast of Melville peninsula, from Igloolik to Winter Island.	41	32	36.25	32.00	29.72	29.44	29.568	a.m. Southerly p. m. NNW	modt.	hazy with rain
14		44	35	38.25	33.58	29.82	29.76	29.800	SSE	modt.	fine
15		36	34	35.42	34.45	29.80	29.80	29.800	SSE	modt.	hazy with rain
16		48	34	40.00	36.25	29.83	29.79	29.810	Westerly	light	foggy
17		46	35	38.25	35.92	29.85	29.80	29.815	SSE	modt.	cloudy
18		41	34	37.00	36.00	29.80	29.56	29.713	NEasterly	light	cloudy
19		37	34	35.75	33.88	29.52	29.44	29.497	a. m. NE p.m. SE	modt.	hazy with sleet & rain
20		39	34	35.83	33.25	29.67	29.55	29.610	Southerly	light	cloudy
21		45	34	39.25	33.46	29.73	29.65	29.693	Easterly	light	cloudy
22		40	33	35.92	33.08	29.70	29.38	29.580	Northerly	light	hazy with rain
23		41	33	36.25	31.17	29.30	29.03	29.122	NNW	a.m. light p m. modt.	heavy rain cloudy
24		38	30	34.46	30.62	29.49	29.29	29.393	Southerly	modt.	cloudy
25		41	34	36.00	31.17	29.80	29.49	29.658	East	light	cloudy
26		40	29	34.46	31.04	29.83	29.78	29.807	S Easterly	light	cloudy
27		37	28	33.25	29.91	29.76	29.65	29.695	NNE	modt.	cloudy
28		36	33	34.75	30.08	29.92	29.64	29.788	NNW	modt.	cloudy
29		47	31	37.67	30.25	30.21	30.02	30.100	Northerly	light	fine
30		39	26	33.33	29.96	30.29	30.26	30.272	NWesterly	light	fine
31		38	24	31.50	30.08	30.29	30.27	30.280	SW	light	fine
		55	24	37.77	32.40	30.29	29.03	29.754			

he could seldom be induced to use any of them. The disease, in consequence, reduced him to a state of extreme debility, which at length carried him off almost without pain. The Hecla being at the time closely beset, and in a situation of great danger among the shoals off Winter Island, Captain Lyon caused the remains of the deceased to be committed to the sea with all the solemnity which circumstances would permit. I cannot close this melancholy notice without expressing my most sincere regret, to which I may venture to add that of Captain Lyon and the other officers, for the loss of this very deserving individual, whose qualities as a seaman and navigator, had it pleased God to spare his life, would have rendered him an ornament to the naval service, into which he was to have been admitted as a Master on the return of the ships to England. Mr. Crawford, the mate of the Fury, was appointed, for the present, to act as Master of the Hecla in the room of Mr. Fife. 1823. Sept.

In the night of the 6th, the ships, which had before nearly closed each other, were again separated to the distance of several miles, though no motion was perceptible in the masses of ice about them. The Hecla was now carried towards Winter Island, and the Fury up Lyon Inlet, so that on the 10th we had reached the islands off Five-hawser Bay within three-quarters of a mile, where the Hecla was barely visible from the mast-head. On the evening of the 11th, however, the wind at length began to freshen from the north-west, when the ice almost immediately commenced driving down the inlet at the rate of a mile an hour, carrying the Fury with it and within half a mile of the rocks, the whole way down to Cape Martineau, but keeping her in deep water. In the mean time the Hecla had been swept into much more dangerous situations, passing along the east and south sides of Winter Island; and after driving nearly up to Five-hawser Bay, being carried near some dangerous shoals about Cape Edwards, where Captain Lyon expected every other tide that she would take the ground. Indeed for the last ten or twelve days the situation of the Hecla had been one of imminent danger, and every exertion to remove her from it had proved unavailing. From this time, however, the ice continued to drive to the southward and, by some means or other, the ships once more closed each other. It was now observable, as on a former occasion in this neighbourhood, that the ice did not carry the ships in the direction opposite to the wind, but much more towards Southampton Island; so that on the 14th we were once more off Fife Rock, and had, by great exertions in warping, nearly rejoined the Wed. Thur. 11. Sun. 14.

1823. Sept. Hecla. We now also observed a dark water-sky to the eastward, which assured us that a clear sea could be at no great distance in that direction.

Mon. 15. On the following day, when the ships had closed each other within a mile, we could see the clear water from the mast-head, and the Hecla could now have been easily extricated. Such however are the sudden changes that take place in this precarious navigation, that not long afterwards the Fury was quite at liberty to sail out of the ice, while the Hecla was now, in her turn, so immoveably set fast, and even cemented between several very heavy masses, that no power that could be applied was sufficient to move her an inch.

Tues. 16. In this situation she remained all the 16th, without our being able to afford her any assistance; and the frost being now rather severe at night, we began to consider it not improbable that we might yet be detained for another winter. We were perhaps indeed indebted for our escape to a strong

Wed. 17. westerly breeze which blew for several hours on the 17th, when, the ice being sufficiently close to allow our men to walk to the assistance of the Hecla, we succeeded, after seven hours' hard labour, in forcing her into clear water, when all sail was made to the eastward, and our course shaped for the Trinity Islands in a perfectly open sea.

We thus finally made our escape from the ice after having been almost immoveably beset in it for twenty-four days out of the last twenty-six, in the course of which time the ships had been taken over no less than one hundred and forty leagues of ground, generally very close to the shore, and always unable to do any thing towards effecting their escape from danger. When it is considered that, to have taken the ground in this situation, with strong and high tides keeping the ice in constant motion, must have almost involved the certain loss of the ships, and without the possibility of one offering assistance to the other, we cannot but consider this as one of the most providential escapes it has ever been our lot to experience.

I cannot help here remarking how closely the band of packed ice, from which we had now just escaped, appears to keep to the shores both of the continent and of Southampton Island, unless driven off the land by strong north-westerly breezes. After now leaving this body of it we saw no more on our return to the eastward, which circumstance agrees with the accounts of Baffin in 1615, and of Fox in 1631; the former having stretched over from Southampton Island to the Trinity Islands without obstruction, and the latter appearing not to have seen any ice the whole way up to his farthest north. I have no doubt that the same clear sea would be found to extend

some distance to the northward of where Fox turned back, and that the band of ice from which we had now extricated our ships continues down to the neighbourhood of Carey's Swan's Nest, producing the obstruction occasionally met with by the Hudson's Bay ships on their return homewards in the autumn. 1823. Sept.

During the time we were beset in and near Lyon Inlet, advantage was taken of the deep water to try its temperature at different depths, as shewn in the following Table:

Days, 1823.	Time.	Whole depth of Water.	Water brought up from a depth of	Temperature of		
				Water brought up.	Surface Water.	Air.
		Fathoms.	Fathoms.			
September 3d, . .	2 P.M.	190	180	30	30.5	40
" "	4 "	176	150	30	30	38
" 4th,	9 A.M.	207	200	30.5	30.5	37
" "	Noon.	175	170	30.5	30.5	39
" "	2 P.M.	184	140	31	31	42
" "	7 "	108	100	30.5	30	37
" 5th,	1 "	175	160	31.4	31.7	37
" 6th,	11.30 A.M.	126	125	30.7	30.7	36
" "	4 P.M.	139	130	30	30.5	31
" "	6 "	150	135	30	30.5	33
" "	8 "	124	115	29.5	30	30
" 7th,	Noon.	105	100	30.5	31	36
" "	2 P.M.	129	124	30.2	31	36
" "	5 "	120	115	29.5	30.2	33
" "	7 "	110	105	29.5	29.5	32
" 8th,	7 A.M.	125	120	29.5	29.7	33
" "	10 "	113	108	29.6	30.5	35
" "	3.30 P.M.	119	110	29.7	30	36
" "	8 "	106	106	29	30	34
" 9th,	11.30 A.M.	132	120	30	30.5	38
" "	7 P.M.	125	100	30	30	35
" 10th,	11 A.M.	145	140	30	30	37
" 11th,	7.30 "	128	120	30	30	35

The wind still favouring us after our leaving the ice, we made the land near the Trinity Islands on the evening of the 18th, and passed Salisbury Island the following day. Meeting with no obstruction whatever we ran with a favourable breeze down Hudson's Strait, and at noon on the 23d had Tues. 23.

1823. Sept. passed Button's Isles, from which we took our final departure. Icebergs of large dimensions occurred from about the seventy-third degree of longitude downwards to the entrance of the Strait, and we remarked that below the sixty-third degree of latitude the land was still comparatively clear of snow.

From the time of our quitting the ice we began occasionally to notice flocks of dovekies, and soon afterwards kittiwakes and mallemucks with their young became numerous, especially after leaving Hudson's Strait. In passing Cape Farewell we saw only one or two shearwaters, probably in consequence of our being too far to the southward of that head-land. A very gradual increase took place in the temperature of the sea-water as well as in that of the atmosphere as we advanced to the eastward, which changes will best be shown by reference to the Meteorological Abstract for the month of September. The Aurora Borealis was visible more or less almost every night during our passage across the Atlantic; it occurred generally in large detached and irregular patches of yellowish light indifferently in all parts of the heavens, and frequently afforded as much light as the moon in her quarters. In a single instance, when the light happened to be confined to one portion of the heavens, it was so vivid as to make the shadows of objects distinctly visible on the deck. On the same night, the phenomenon assumed the form of a brilliant arch extending across the heavens through the zenith from *true* east to west. It often happened also in cloudy weather, that the Aurora produced the same kind of general light at night as the moon does under similar circumstances; the compasses were never perceptibly affected by this phenomenon.

On the 24th of September, in lat. 60° 30′ and long. 61° 30′, we picked up a piece of yellow pine-tree, ten feet long from the root and a foot in diameter; it was quite sound, not at all water-logged, and had no appearance of being worm-eaten. On the 30th, in lat. 57° 35′, long. 39° 30′, we passed another tree of considerably larger size; and on the 2d of October, in lat. 58° 10′, long. 30° 05′, observed a spar from twenty to thirty feet in length.

October. Thur. 2.

We were now generally favoured by strong westerly winds, and nothing worthy of notice occurred till the 7th, when being in lat. 59° 26′, and long. 10° 55′, a Six's thermometer was sent down to a depth of three hundred and fifty fathoms, and indicated a temperature of 50½°, that of the surface being the same, and of the air 53°. A solan goose was seen on this and the preceding day, and these birds became more numerous as we ap-

Tues. 7.

ABSTRACT of the METEOROLOGICAL JOURNAL kept on board His Majesty's Ship FURY, during the Month of *September*, 1823.

Day	Place.	Temperature of Air in Shade. Maximum.	Minimum.	Mean.	Mean Temp. of Sea-water.	Barometer. Maximum.	Minimum.	Mean.	Prevailing Winds. Direction.	Velocity.	Prevailing Weather.
		°	°	°	°	inches	inches	inches			
1	In or near Lyon Inlet.	+37	+28	+33.25	+29.92	30.22	30.04	30.123	E	light	cloudy
2		37	31	34.00	29.88	30.00	29.83	29.920	Easterly	light	cloudy
3		40	31	34.42	29.95	29.84	29.79	29.807	NE	modt.	hazy
4		42	32	36.42	30.40	29.91	29.83	29.862	Northerly	light	small rain
5		37	28	33.92	30.02	29.99	29.91	29.960	N. Westerly	light	clear
6		38	26	31.27	30.14	30.10	29.98	30.043	NW	light	fine
7		36	23	29.79	29.88	30.11	30.08	30.100	S. Easterly	light	fine
8		37	29	33.58	29.71	30.07	29.84	30.000	EbS	light	cloudy
9		40	33	35.17	30.04	29.72	29.40	29.627	ESE	light	fog and rain.
10		39	34	35.67	30.00	29.38	29.10	29.233	ENE	modt.	cloudy
11		36	30	34.17	29.70	29.40	29.11	29.245	North	fresh	cloudy
12		34.5	27	30.71	29.04	29.80	29.52	29.675	WNW	fresh	cloudy
13		37	29	32.17	29.00	29.80	29.70	29.707	a.m. S.Westerly; p.m. S.Easterly	light	cloudy—snow
14		32	27	29.83	28.21	29.79	29.72	29.760	Westerly	light	cloudy
15	Off South Islar.	32	23	28.04	28.12	29.90	29.72	29.828	WNW	modt.	cloudy
16		33	24	27.92	27.88	29.97	29.89	29.946	West	modt	cloudy
17		30	24	26.40	30.15	29.97	29.89	29.940	NW	modt.	cloudy
18	Sailing down Hudson's Strait.	34.5	26	28.88	32.17	29.83	29.80	29.805	West	light	cloudy—small snow
19		29	26	27.38	32.83	29.83	29.83	29.830	NNE	modt.	cloudy
20		30	28	29.29	33.65	29.90	29.85	29.873	NNE	light	cloudy
21		33	28	29.92	33.29	29.88	29.79	29.850	NNE	light	cloudy
22		34	26	28.67	32.21	29.87	29.77	29.812	NNW	modt.	fine
23		35	26	29.83	32.00	30.02	29.92	29.972	SSW	modt.	clear
24	On the Passage Eastward between Button's Isles and the Meridian of Cape Farewell.	40.5	32	37.46	36.00	29.90	29.83	29.875	SW	fresh	cloudy
25		44	30	41.38	41.50	29.98	29.82	29.838	SSW	modt.	cloudy
26		51	41	43.83	42.58	29.99	29.78	29.908	WNW	light	fine
27		44	40	41.92	42.58	29.80	29.50	29.647	Southerly	fresh	hazy
28		51	40	43.12	43.37	30.00	29.87	29.943	Westerly	modt.	fine
29		43	39	41.75	43.17	29.94	29.66	29.830	Northerly	modt.	fine
30	Off the entrance to Davis' Strait.	49	40	42.75	44.33	29.90	29.70	29.828	WNW	fresh	fine
		51	23	33.76	33.15	30.22	29.10	29.828			

1823. October. proached the Orkneys, which we made on the morning of the 9th, the wind being moderate from the southward. It can scarcely perhaps be imagined by those who have not been similarly situated, with what eager interest one or two vessels were this day descried by us, being the first trace of civilized man that we had seen for the space of seven and twenty months. The breeze increasing to a fresh gale from the southward in the course of the night, with a heavy sea from the same quarter, rendering it impossible for us to make any progress in that direction, I determined to put into Lerwick in the Shetland Islands, to procure refreshments and await a change of wind in our favour. We accordingly bore up for that harbour early on the
Frid. 10. morning of the 10th, and at thirty minutes past ten A.M. anchored there, where we were immediately visited by a great number of the inhabitants, anxious to greet us on our return to our native country.

I feel it utterly impossible adequately to express the kindness and attention we received for the three or four days that we were detained in Bressay Sound by a continuance of unfavourable winds. On the first information of our arrival the bells of Lerwick were set ringing, the inhabitants flocked from every part of the country to express their joy at our unexpected return, and the town was at night illuminated as if each individual
Sun. 12. had a brother or a son among us. On the 12th, being Sunday, the officers and men of both ships attended divine service on shore, when the worthy minister, the Reverend Mr. Menzies *, who was before well known to many among us, offered up in the most solemn and impressive manner a thanksgiving for our safe return; at the same time calling upon us, with great earnestness, never to forget what we owed to Him who had been "about our path, and about our bed, and who spieth out all our ways." The peculiarity of the circumstances under which we had joined the congregation, the warmth of feeling exhibited by every person assembled within the sacred walls, together with the affectionate energy of the preacher, combined to produce an effect of which words can convey but little idea, but which will not easily be effaced from the minds of those who were present on this affecting occasion.

Mon. 13. On the 13th, a breeze springing up from the northward, we took leave of our kind and hospitable friends, deeply sensible of the cordial and affec-

* This faithful minister and most estimable member of society has since gone to receive the reward of his labours; but he will long live in our grateful remembrance.

tionate reception we had experienced; and being still favoured by the wind were abreast of Buchaness the following evening. It was my intention to have put into Leith, in order to procure anchors and pilots previously to venturing upon the English coast, but the wind breaking us off on the morning of the 15th, prevented our approaching that part of the coast, and we continued our course to the southward. On the 16th, being off Whitby, I went on shore there, accompanied by Mr. Fisher the astronomer, and after receiving the cordial greetings of a great number of the worthy inhabitants of Whitby, who had assembled to meet us on landing, set off for London and arrived at the Admiralty on the morning of the 18th. The ships, after touching at the Humber for pilots, arrived in the River Thames shortly afterwards, and were paid off at Deptford on the 14th of November.

1823. October. Wed. 15. Thur. 16.

Having thus concluded the Narrative of this our second attempt to discover a North-West Passage, it may be proper for me to offer a few remarks on its probable existence and practicability. That such a passage exists, and that its outlet on the western side will be found at Bhering's Strait, the discoveries of the last six years, combined with the previous researches of Cook and Hearne and Mackenzie, have scarcely left a doubt; indeed, the various points at which the northern coast of America has now been satisfactorily laid down, from Icy Cape on the west to the shores of Melville Peninsula on the east, afford a strong presumption in favour of the opinion that this Continent does not in any part extend far beyond the 70th or 71st parallel of latitude.

While the probability of the existence of the Passage has been greatly strengthened by the efforts of our various Expeditions by land and sea, as well as by those of the Russians about Icy Cape, the hope of its ultimate accomplishment has, notwithstanding our late failure, received no inconsiderable encouragement. That the sea is sometimes navigable upon the northern shores of America is no longer a matter of speculation or conjecture, but stands recorded upon the authority, and to the honour, of our distinguished countryman Captain Franklin and his brave companions. A single view of the drawings accompanying his description of their extraordinary canoe-navigation along these desolate shores, must at once convey to the minds of those who are interested in the accomplishment of this long-sought object, a degree of encouragement which the most sanguine could

scarcely have experienced before. And although there can be no doubt, that the various changes of wind and tide would occasionally block up with ice the shores surveyed by Captain Franklin, yet the open water he observed is a proof that the ice has a considerable space to move about in; and I cannot, therefore, but entertain a very confident hope that if a ship could once be got upon that coast, she might, by patience and perseverance, ultimately complete the desired object.

The report of the Russian ships that lately visited Icy Cape is, also, as respects the state of the ice, as favourable as the most sanguine mind could wish; for their description is precisely that of a kind of navigation through which our ships have already held their course, uninjured, for hundreds of leagues, and through which, therefore, they may, under Providence, be again conducted by similar exertions. When, indeed, a body of ice has been once detached from the land, and has acquired some room to recede from it, which appears to be the case in the summer about Icy Cape, it is seldom that a ship need despair of making progress, unless the season be too far advanced to allow her to take advantage of the occasional openings.

Reports so favourable as these of the state of the ice during the summer upon the central and western parts of the north coast of America, certainly combine to offer a new view of the enterprise in which we have late been engaged. From these and from the late failure of the Fury and Hecla in endeavouring to force their way into the Polar Sea, it would appear that the principal difficulty lies on this eastern or Atlantic side; and it becomes, therefore, a matter of more interest than ever to inquire by what route a ship is most likely to reach that part of the coast lately discovered and surveyed by Captain Franklin.

The opinion I have before given as to the advantages of *continuous land* in the navigation of the Polar Seas, has been considerably strengthened by our subsequent experience for the last three seasons; and I am more than ever impressed with the belief that the only way in which a ship can, with tolerable certainty, succeed in penetrating any considerable distance is by watching the openings occasionally produced by winds and tides between a body of ice, when detached and moveable, and some land continuous in the desired direction. I have here adverted to this only for the purpose of further remarking that, however unsuccessful have been our late endeavours, they were unquestionably directed to the right place, and that, with the limited geographical information we then possessed, no other route than that pointed

out in my Instructions, could possibly have been pursued with any reasonable hope of success.

Circumstances, however, beyond the reach of any previous speculation, have combined to oppose an insurmountable barrier to our entrance into the Polar Sea by the route lately pursued, and consequently preventing us from reaching the northern shore of the continent of America, along which it would have been our object to proceed. The state of the ice for two successive summers in the Strait of the Fury and Hecla seems to indicate, that the obstruction we there met with is dependent rather on locality than on season; for the phenomenon of two consecutive winters of extraordinary severity is one of extremely rare occurrence. It is more than probable, that the obstacles which finally arrested our progress in the Strait are to be mainly attributed to the current we found setting to the eastward through it; and which coincides with that observed by Captain Franklin and by the Russians to the westward. This stream, in finding its way out through the Strait, would undoubtedly have the effect of keeping the ice close home upon its western mouth, so as to prevent the egress of a ship in that direction; and I cannot help thinking that, on this account, the navigation of that Strait will seldom if ever be practicable.

Being thus unavoidably shut out from the northern shores of the continent, it remains to inquire by what other opening there may be the best chance of approaching it the nearest; for the principle of coasting it, whenever it can be reached, must still in my opinion be carefully kept in view. There is no *known* opening which seems to present itself so favourably for this purpose as Prince Regent's Inlet. This leads me to observe that, had we even succeeded in fairly entering the Polar Sea by the Strait of the Fury and Hecla, the geographical information obtained from the Esquimaux, and on which I conceive the greatest reliance may be placed, would probably have induced me so far to depart from the strict tenor of my instructions, as to attempt a passage *across the mouth* of the great bay lying on the south-western side of Melville Peninsula, instead of coasting its winding and probably much-indented shores. Indeed I consider that the spirit of my Instructions was fulfilled, as far as they regarded my close examination of the coast of America, from the moment that I had discovered the Strait which terminated that coast to the northward; and that had I been fortunate enough to succeed in entering the Polar Sea, that my business *then* was to get to the westward in the shortest way I was able. It being therefore no longer necessary

to follow the continent on the western side of Melville Peninsula, it appears to be of very little importance whether a future attempt be made from Cape Kater, which lies near the bottom of Prince Regent's Inlet, or from Cape Englefield at the western entrance of the Strait of the Fury and Hecla. Indeed the chance of success is rather in favour of the former of these two stations, both on account of the shorter distance to Point Turnagain of Captain Franklin, which from thence does not exceed four hundred and fifty miles, as well as from the probability to which I have before alluded, of the ice being almost constantly pressed by the westerly current against the western mouth of the Strait. The view which we obtained from the southern part of Prince Regent's Inlet in 1819 was not, indeed, very encouraging as to the state of the ice at that particular time; but our business at that time lying in a different direction, we remained only a few hours on the spot, and could not therefore judge what favourable changes might have been produced by the various alterations in wind and tide. The ice was, however, certainly detached from the shores, and in motion; in which case a hope may always be cherished of occasional openings in our favour.

In estimating the probability of success in this attempt, it is proper for me here to remark that the difficulty of giving any very decided opinion upon it arises, not simply from the general uncertainty attending a navigation of so precarious a nature as that to which we have lately been accustomed, as because there is nothing in our late experience which can properly be considered analogous to it. To enter a body of heavy ice, of great and uncertain extent, without any known land stretching in the desired direction, is an enterprise differing in character from almost any hitherto attempted with success. In 1819, indeed, the Hecla and Griper crossed the barrier of ice occupying the centre of Baffin's Bay for a distance of about ninety miles, and succeeded in reaching the open water off Sir James Lancaster's Sound; and since that time numbers of whalers have done the same: but this distance is small in comparison with that which ships would have to traverse, from the bottom of Prince Regent's Inlet to any part of the navigable channel discovered by Captain Franklin, and which it would be their first object to reach. It is however by no means improbable, that some intervening land may be discovered in this interval to assist a ship's progress to the south-westward; and that, by patience and perseverance, she might succeed in gaining the shores of the continent, where it may be expected that only the *ordinary* difficulties of this navigation would once more present

themselves. It is possible at the same time that, in so vast an expanse of sea, channels of open water may occur to assist a ship's progress to the westward.

It appears, then, that the chief difficulty to be anticipated in the accomplishment of this passage, will consist in getting the ships upon that part of the continent, which, from the very best authority, we know to be navigable. I trust that the endeavours of the two Expeditions lately employed under my orders have at least served the useful purpose of shewing where the passage is *not* to be effected, and of thus bringing within very narrow limits the question as to where any future attempt should be made. In submitting, which I do with considerable diffidence, the foregoing view of the subject, it has not been my intention to create or magnify difficulties, but to suggest as well as I am able the best mode of overcoming them. For my own part, I never felt more sanguine of ultimate success in the enterprise in which I have lately been engaged, than at the present moment; and I cannot but entertain a confident hope that England may yet be destined to succeed in an attempt which has for centuries past engaged her attention, and interested the whole civilized world.

END OF THE NARRATIVE.

SOME FURTHER ACCOUNT OF THE ESQUIMAUX OF MELVILLE PENINSULA AND THE ADJOINING ISLANDS; MORE PARTICULARLY WINTER ISLAND AND IGLOOLIK.

The number of individuals composing the tribe of Esquimaux assembled at Winter Island and Igloolik was two hundred and nineteen, of whom sixty-nine were men, seventy-seven women, and seventy-three children. Two or three of the men, from their appearance and infirmities, as well as from the age of their children, must have been near seventy; the rest were from twenty to about fifty. The majority of the women were comparatively young, or from twenty to five and thirty, and three or four only seemed to have reached sixty. Of the children, about one-third were under four years old, and the rest from that age upwards to sixteen or seventeen. Out of one hundred and fifty-five individuals who passed the winter at Igloolik, we knew of eighteen deaths and only of nine births.

The stature of these people is much below that of Europeans in general. One man, who was unusually tall, measured five feet ten inches, and the shortest was only four feet eleven inches and a half. Of twenty individuals of each sex measured at Igloolik, the range was—

	MEN.	WOMEN.
	From 5 ft. 10 in. to 4 ft. 11 in.	From 5 ft. 3½ in. to 4 ft. 8¾ in.
The average height	5 ft. 5½ in.	5 ft. 0½ in.

The women, however, generally appear shorter than they really are, both from the unwieldy nature of their clothes, and from a habit which they early acquire, of stooping considerably forward in order to balance the weight the child they carry in their hood.

In their figure they are rather well-formed than otherwise. Their knees are indeed rather large in proportion, but their legs are straight, and the hands and feet, in both sexes, remarkably small. The younger individuals were all plump, but none of them corpulent; the women inclined the most to this last extreme, and their flesh was, even in the youngest individuals, quite loose and without firmness.

Their faces are generally round and full, eyes small and black, nose also small and sunk far in between the cheek bones, but not much flattened. It is remarkable that one man, *Tē-ă*, his brother, his wife and two daughters had good Roman noses, and one of the latter was an extremely pretty young woman. Their teeth are short, thick, and close, generally regular, and in the young persons almost always white. The elderly women were still well furnished in this way, though their teeth were usually a good deal worn down, probably by the habit of chewing the seal-skins for making boots.

In the young of both sexes the complexion is clear and transparent, and the skin smooth. The colour of the latter, when divested of oil and dirt, is scarcely a shade darker than that of a deep brunette, so that the blood is plainly perceptible when it mounts into the cheeks. In the old folks, whose faces were much wrinkled, the skin appears of a much more dingy hue, the dirt being less easily and therefore less frequently dislodged from them.

Besides the smallness of their eyes, there are two peculiarities in this feature common to almost all of them. The first consists in the eye not being horizontal as with us, but coming much lower at the end next the nose than at the other. Of the second an account, by Mr. Edwards, will be given in another place.

By whatever peculiarities, however, they may in general be distinguished, they are by no means ill-looking people; and there were among them three or four grown-up persons of each sex who, when divested of their skin-dresses, their tattooing and, above all of their dirt, might have been considered pleasing-looking if not handsome people in any town in Europe. This remark applies more generally to the children also, several of whom had complexions nearly as fair as that of Europeans, and whose little bright black eyes gave a fine expression to their countenances.

The hair both of males and females is black, glossy, and straight. The men usually wear it rather long, and allow it to hang about their heads in a loose and slovenly manner. A few of the younger men, and especially those who had been about the shores of the Welcome, had it cut straight upon the forehead, and two or three had a circular patch upon the crown of the head, where the hair was quite short and thin, somewhat after the manner of Capuchin friars. The women pride themselves extremely on the length and thickness of their hair; and it was not without reluctance on their part, and the same on that of their husbands, that they were induced to dispose of any of it. When inclined to be neat they separate their locks into two

equal parts, one of which hangs on each side of their heads and in front of their shoulders. To stiffen and bind these they use a narrow strap of deer-skin, attached at one end to a round piece of bone, fourteen inches long, tapered to a point, and covered over with leather. This looks like a little whip, the handle of which is placed up and down the hair, and the strap wound round it in a number of spiral turns, making the tail, thus equipped, very much resemble one of those formerly worn by our seamen. The strap of this article of dress, which is altogether called a *tŏgleēgă*, is so made from the deer-skin as to shew, when bound round the hair, alternate turns of white and dark fur, which give it a very neat and ornamental appearance. On ordinary occasions it is considered slovenly not to have the hair thus dressed, and the neatest of the women never visited the ships without it. Those who are less nice dispose their hair into a loose plait on each side, or have one togleega and one plait; and others again, wholly disregarding the business of the toilette, merely tucked their hair in under the breast of their jackets. Some of the women's hair was tolerably fine, but would not in this respect bear a comparison with that of an Englishwoman. In both sexes it is full of vermin, which they are in the constant habit of picking out and eating; a man and his wife will sit for an hour together, performing for each other that friendly office. The women have a comb, (12.)* which, however, seems more intended for ornament than use, as we seldom or never observed them comb their hair. When a woman's husband is ill she wears her hair loose, and cuts it off as a sign of mourning if he dies; a custom agreeing with that of the Greenlanders †. It is probable also, from what has been before said, that some opprobrium is attached to the loss of a woman's hair when no such occasion demands this sacrifice ‡. The men wear the hair on the upper lip and chin, from an inch to an inch and a half in length, and some were distinguished by a little tuft between the chin and lower lip.

The dresses both of male and female are composed almost entirely of deer-skin, in which respect they differ from those of most Esquimaux before met

* This and the other numbers thus occurring in the course of this chapter, refer to the corresponding numbers in the two Engravings of Implements, *&c.*

† Crantz's History of Greenland, London edition, 1767, i. 138, 240. In the following account of the Esquimaux, references will occasionally be made to Crantz and Egede, as well to point out any dissimilarity, as any resemblance, between these people and the nations of Greenland.

‡ Id. ibid.

with. In the form of the dress they vary very little from those so repeatedly described. The jacket, which is close, but not tight, all round, comes as low as the hips and has sleeves reaching to the wrist. In that of the women, the tail or flap behind is very broad, and so long as almost to touch the ground; while a shorter and narrower one before reaches half-way down the thigh. The men have also a tail in the hind part of their jacket, but of smaller dimensions; but before, it is generally straight, or ornamented by a single scollop. The hood of the jacket, which forms the only covering for their head, is much the largest in that of the women, for the purpose of holding a child. The back of the jacket also bulges out in the middle to give the child a footing, and a strap or girdle below this, and secured round the waist by two large wooden buttons in front, prevents the infant from falling through when, the hood being in use, it is necessary thus to deposit it. The sleeves of the women's jackets are made more square and loose about the shoulders than those of the men, for the convenience, as we understood, of more readily depositing a child in the hood; and they have a habit of slipping their arms out of them, and keeping them in contact with their bodies, for the sake of warmth, just as we do with our fingers in our gloves in very cold weather.

In winter every individual, when in the open air, wears two jackets, of which the outer one (*Cāppĕ-tēggă*) has the hair outside, and the inner one (*Atteēga*) next the body. Immediately on entering the hut the men take off their outer jacket, beat the snow from it, and lay it by. The upper garment of the females, besides being cut according to a regular and uniform pattern, and sewed with exceeding neatness, which is the case with all the dresses of these people, has also the flaps ornamented in a very becoming manner by a neat border of deer-skin, so arranged as to display alternate breadths of white and dark fur. This is, moreover, usually beautified by a handsome fringe, consisting of innumerable long narrow threads of leather hanging down from it. This ornament is now uncommon also in the outer jackets of the men. When seal-hunting, they fasten up the tails of their jackets with a button behind.

Their breeches, of which in winter they also wear two pair, and similarly disposed as to the fur, reach below the knee, and fasten with a string drawn tight round the waist. Though these have little or no waist-band, and do not come very high, the depth of the jackets, which considerably overlap them, serves very effectually to complete the covering of the body.

Their legs and feet are so well clothed that no degree of cold can well affect them. When a man goes on a sealing excursion, he first puts on a pair of deer-skin boots *(Allĕkteegă)* with the hair inside and reaching to the knee, where they tie. Over these come a pair of shoes of the same material; next a pair of dressed seal-skin boots perfectly water-tight; and over all a corresponding pair of shoes, tying round the instep. These last are made just like the mocassin of a North-American Indian, being neatly crimped at the toes, and having several serpentine pieces of hide sewn across the sole to prevent wearing. The water-tight boots and shoes are made of the skin of the small seal, (*neitiek*) except the soles, which consist of the skin of the large seal (*oguke*); this last is also used for their fishing-lines. When the men are not prepared to encounter wet, they wear an outer boot of deer-skin with the hair outside.

The inner boot of the women, unlike that of the men, is loose round the leg, coming as high as the knee-joint behind, and in front carried up, by a long pointed flap, nearly to the waist, and there fastened to the breeches. The upper boot, with the hair as usual outside, corresponds with the other in shape, except that it is much more full, especially on the outer side, where it bulges out so preposterously as to give the women the most awkward, bow-legged appearance imaginable. This superfluity of boot has probably originated in the custom, still common among the native women of Labrador, of carrying their children in them. We were told that these women sometimes put their children there to sleep; but the custom must be rare among them, as we never saw it practised. These boots, however, form their principal pockets, and pretty capacious ones they are. Here, also, as in the jackets, considerable taste is displayed in the selection of different parts of the deer-skin, alternate strips of dark and white being placed up and down the sides and front by way of ornament. The women also wear a mocassin (*Itteegĕgă*) over all, in the winter-time.

One or two persons used to wear a sort of ruff round the neck, composed of the longest white hair of the deer-skin, hanging down over the bosom in a manner very becoming to young people. It seemed to afford so little additional warmth to persons already well clothed, that I am inclined rather to attribute their wearing it to some superstitious notion. The children between two and eight or nine years of age had a pair of breeches and boots united in one, with braces over their shoulders to keep them up. These, with a jacket like the others, and a pair of deer-skin mittens,

with which each individual is furnished, constitute the whole of their dress. Children's clothes are often made of the skins of very young fawns and of the marmot, as being softer than those of the deer.

The Esquimaux, when thus equipped, may at all times bid defiance to the rigour of this inhospitable climate; and nothing can exceed the comfortable appearance which they exhibit even in the most inclement weather. When seen at a little distance, the white rim of their hoods, whitened still more by the breath collecting and freezing upon it, and contrasted with the dark faces which they encircle, render them very grotesque objects; but while the skin of their dresses continues in good condition, they always look clean and wholesome.

To judge by the eagerness with which the women received our beads, especially small white ones, as well as any other article of that kind, we might suppose them very fond of personal ornament. Yet of all that they obtained from us in this way at Winter-Island, scarcely any thing ever made its appearance again during our stay there, except a ring or two on the finger, and some bracelets of beads round the wrist; the latter of these was probably considered as a charm of some kind or other. We found among them, at the time of our first intercourse, a number of small black and white glass beads, disposed alternately on a string of sinew and worn in this manner. They would also sometimes hang a small bunch of these, or a button or two, in front of their jackets and hair; and many of them, in the course of the second winter, covered the whole front of their jackets with the beads they received from us.

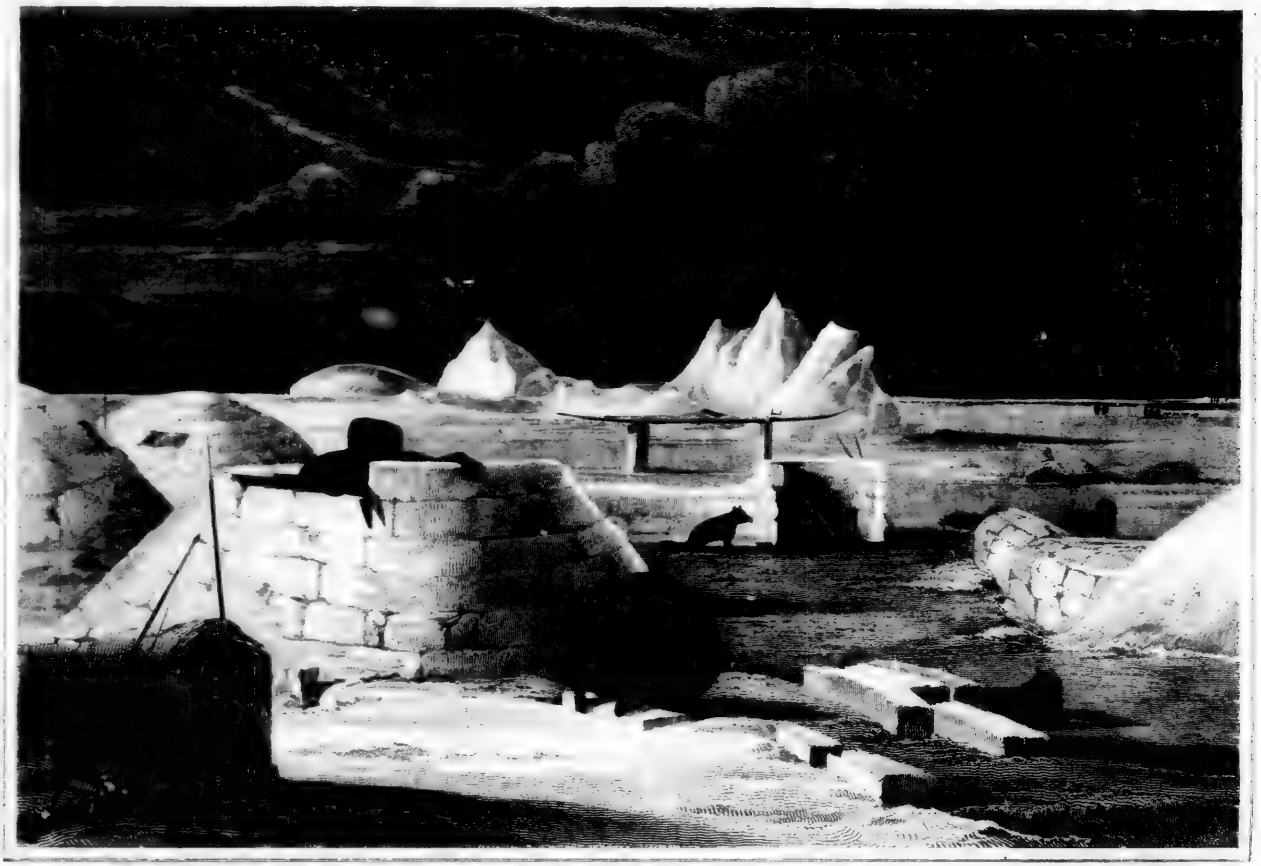
The most common ornament of this kind, exclusively their own, consists in strings of teeth, sometimes many hundred in number, which are either attached to the lower part of the jacket like the fringe before described, or fastened as a belt round the waist. Most of these teeth are of the fox and wolf, but some also belonged to the musk-ox, (*oomĭngmŭk*), of which animal, though it is never seen at Winter-Island, we procured from the Esquimaux several of the grinders and a quantity of the hair and skin. The bones of the *kŭblĕe-ŭrioo*, supposed to be the wolverene, constitute another of their ornaments; and it is more than probable that all these possess some imaginary qualities, as specific charms for various purposes*. The most extraordinary amulet, if it be one, of this kind, was a row of foxes' noses attached to the

* Egede's Description of Greenland, London Edition, 1745, p. 194.

fore-part of a woman's jacket like a tier of black buttons. I purchased from Iligliuk a semicircular ornament of brass, serrated at the upper edge and brightly polished, which she wore over her hair in front and which was very becoming. The handsomest thing of this kind, however, was understood to be worn on the head by men, though we did not learn on what occasions. (7.) It consisted of a band two inches in breadth, composed of several strips of skin sewn together, alternately black and yellow; near the upper edge, some hair was artfully interwoven, forming with the skin a very pretty checquer-work: along the lower edge were suspended more than a hundred small teeth, principally of the deer, neatly fastened by small double tags of sinew and forming a very appropriate fringe.

Among their personal ornaments must also be reckoned that mode of marking the body, called tattooing which, of the customs not essential to the comfort or happiness of mankind, is perhaps the most extensively practised throughout the world. Among these people it seems to be an ornament of indispensable importance to the women, not one of them being without it. The operation is performed about the age of ten or sometimes earlier, and has nothing to do with marriage, except that, being considered in the light of a personal charm, it may serve to recommend them as wives. The parts of the body thus marked are their faces, arms, hands, thighs, and in some few women the breasts, but never the feet as in Greenland*. The operation, which by way of curiosity most of our gentlemen had practised on their arms, is very expeditiously managed by passing a needle and thread, the latter covered with lamp-black and oil†, under the epidermis, according to a pattern previously marked out upon the skin. Several stitches being thus taken at once, the thumb is pressed upon the part, while the thread is drawn through, by which means the colouring matter is retained and a permanent dye of a blue tinge imparted to the skin. A woman expert at this business will perform it very quickly and with great regularity, but seldom without drawing blood in many places, and occasioning some inflammation. Where so large a portion of the surface of the body is to be covered, it must become a painful as well as tedious process, especially as, for want of needles, they often use a strip of whalebone as a substitute. For those parts where a needle cannot conveniently be passed under the skin, they use the method by puncture, which is common in

* Crantz, I. 188. † Id. Ibid.

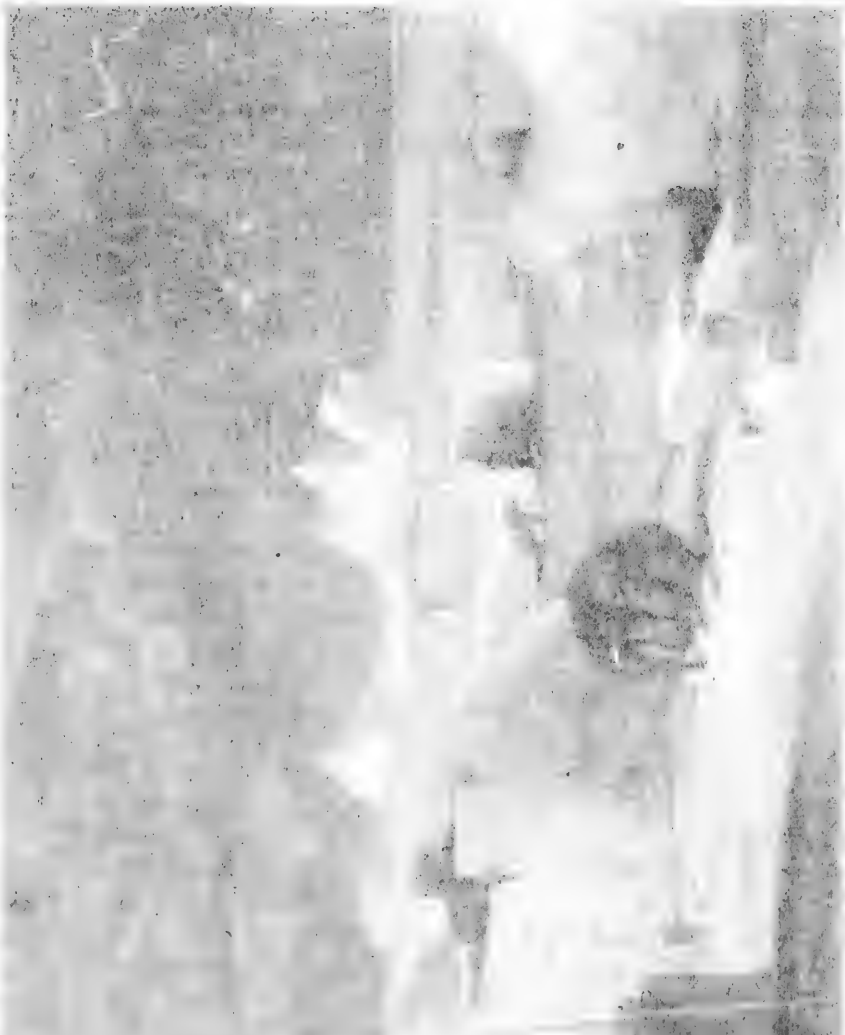


Drawn by Captn Lyon R.N.

Engraved by Edwd Finden

[illegible] countries, and by which our seamen frequently mark their hands and [illegible]. The point at which these people adopt, and which is nearly the same as [illegible] will best and can indeed be only ascertained by reference to Captain Lyon's drawings, in which it is faithfully represented. Several of our [illegible] had a little of this kind of mark on the back part of their hands; and with them we understood it to be [illegible] for a mother or some other deceased person who had performed it.

[illegible] I have before mentioned that the ship's [illegible] [illegible] the latter being [illegible] [illegible] [illegible] This [illegible] accomplished by cutting [illegible] a piece of [illegible] [illegible] [illegible]



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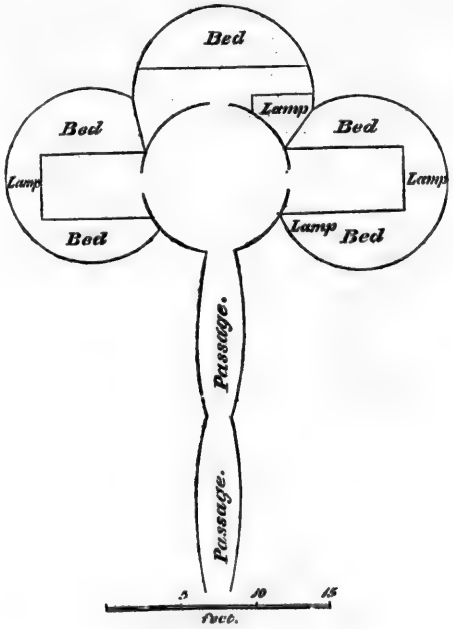
other countries, and by which our seamen frequently mark their hands and arms. The pattern which these people adopt, and which is nearly the same in all, will best and can indeed be only understood by reference to Captain Lyon's drawings, in which it is faithfully delineated. Several of the men had a little of this kind of mark on the back part of their hands; and with them we understood it to be considered as a *souvenir* of some distant or deceased person who had performed it.

In their winter-habitations, I have before mentioned that the only materials employed are snow and ice; the latter being made use of for the windows alone. The work is commenced by cutting from a drift of hard and compact snow a number of oblong slabs, six or seven inches thick and about two feet in length, and laying them edgeways on a level spot, also covered with snow, in a circular form and of a diameter from eight to fifteen feet, proportioned to the number of occupants the hut is to contain. Upon this as a foundation is laid a second tier of the same kind, but with the pieces inclining a little inwards, and made to fit closely to the lower slabs and to each other, by running a knife adroitly along the under part and sides. The top of this tier is now prepared for the reception of a third, by squaring it off smoothly with a knife, all which is dexterously performed by one man standing within the circle and receiving the blocks of snow from those employed in cutting them without. When the wall has attained a height of four or five feet, it leans so much inward as to appear as if about to tumble every moment, but the workmen still fearlessly lay their blocks of snow upon it, until it is too high any longer to furnish the materials to the builder in this manner. Of this he gives notice by cutting a hole close to the ground in that part where the door is intended to be, which is near the south side, and through this the snow is now passed. Thus they continue till they have brought the sides nearly to meet in a perfect and well-constructed dome, sometimes nine or ten feet high in the centre; and this they take considerable care in finishing, by fitting the last block or *key-stone* very nicely in the centre, dropping it into its place from the outside though it is still done by the man within. The people outside are in the mean time occupied in throwing up snow with the *pŏoālĕrāy*, or snow-shovel, (5.) and in stuffing in little wedges of snow where holes have been accidentally left.

The builder next proceeds to let himself out by enlarging the proposed door-way into the form of a Gothic arch three feet high, and two feet and a half wide at the bottom, communicating with which they construct two

passages, as shewn in the annexed ground-plan, each from ten to twelve feet long and from four to five in height, the lowest being that next the hut.



The roofs of these passages are sometimes arched, but more generally made flat by slabs laid on horizontally. In first digging the snow for building the hut, they take it principally from the part where the passages are to be made, which purposely brings the floor of the latter considerably lower than that of the hut, but in no part do they dig till the bare ground appears.

The work just described completes the walls of a hut, if a single apartment only be required; but if, on account of relationship, or from any other cause, several families are to reside under one roof, the passages are made common to all, and the first apartment (in that case made smaller) forms a kind of anti-chamber, from which you go through an arched door-way five feet high into the inhabited apartments. When there are three of these, which is generally the case, the whole building with its adjacent passages, forms a tolerably regular cross.

For the admission of light into the huts a round hole is cut on one side of the roof of each apartment, and a circular plate of ice, three or four inches thick and two feet in diameter, let into it. The light is soft and pleasant like that transmitted through ground glass, and is quite sufficient for every purpose. When after some time these edifices become surrounded by drift, it is only by the windows, as I have before remarked, that they could be recognised as human habitations. It may perhaps then be imagined how singular is their external appearance at night, when they discover themselves only by a circular disk of light transmitted through the windows from the lamps within.

The next thing to be done is to raise a bank of snow two and a half feet high, all round the interior of each apartment, except on the side next the door. This bank, which is neatly squared off, forms their beds and fire-place, the former occupying the sides and the latter the end opposite the door. The passage left open up to the fire-place is between three and four feet wide. The beds are arranged by first covering the snow with a quantity of small stones, over which are laid their paddles, tent-poles, and some blades of whalebone: above these they place a number of little pieces of net-work, made of thin slips of whalebone, and lastly a quantity of twigs of birch * and of the *andromeda tetragona*. Their deer-skins, which are very numerous, can now be spread without risk of their touching the snow; and such a bed is capable of affording not merely comfort but luxurious repose, in spite of the rigour of the climate. The skins thus used as blankets are made of a large size and bordered, like some of the jackets, with a fringe of long narrow slips of leather, in which state a blanket is called *keïuk*.

The fire belonging to each family consists of a single lamp, or shallow vessel of *lapis ollaris*, its form being the lesser segment of a circle. (2.) The wick, composed of dry moss rubbed between the hands till it is quite inflammable, is disposed along the edge of the lamp on the strait side, and a greater or smaller quantity lighted according to the heat required or the fuel that can be afforded. When the whole length of this, which is sometimes above eighteen inches, is kindled, it affords a most brilliant and beautiful light

* This birch they said had been procured from the southward, by way of *Noowook*. We never met with any of the same kind in those parts of the country which we visited, except that observed by Captain Lyon in the deserted habitations of the Esquimaux near Five Hawser-Bay.

without any perceptible smoke or offensive smell. The lamp is made to supply itself with oil, by suspending a long thin slice of whale, seal, or sea-horse blubber near the flame, the warmth of which causes the oil to drip into the vessel until the whole is extracted. Immediately over the lamp is fixed a rude and ricketty frame-work of wood, from which their pots are suspended, and serving also to sustain a large hoop of bone, having a net stretched tight within it. This contrivance, called *Innĕlăt*, is intended for the reception of any wet things, and is usually loaded with boots, shoes, and mittens.

The fire-place just described as situated at the upper end of the apartment, has always two lamps facing different ways, one for each family occupying the corresponding bed-place. There is frequently also a smaller and less-pretending establishment on the same model, lamp, pot, net and all, in one of the corners next the door; for one apartment sometimes contains three families, which are always closely related, and no married woman or even a widow without children is without her separate fire-place.

With all the lamps lighted and the hut full of people and dogs, a thermometer placed on the net over the fire indicated a temperature of 38°; when removed two or three feet from this situation it fell to 32°, and placed close to the wall stood at 23°, the temperature of the open air at the time being 25° below *zero*. A greater degree of warmth than this, produces extreme inconvenience by the dropping from the roofs. This they endeavour to obviate, by applying a little piece of snow to the place from which a drop proceeds, and this adhering is for a short time an effectual remedy; but for several weeks in the spring, when the weather is too warm for these edifices, and still too cold for tents, they suffer much on this account,

The most important perhaps of the domestic utensils, next to the lamp already described, are the *oōtkŏŏsĕĕks* or stone pots for cooking. (1.) These are hollowed out of solid *lapis ollaris*, of an oblong form, wider at the top than at the bottom, all made in similar proportion though of various sizes, corresponding with the dimensions of the lamp which burns under it. The pot is suspended by a line of sinew at each end to the frame-work over the fire, and thus becomes so black on every side that the original colour of the stone is in no part discernible. Many of them were cracked quite across in several places, and mended by sewing with sinew or rivets of copper, iron, or lead, so as with the assistance of a lashing and a due proportion of dirt to render them quite water-tight. I may here remark, that as these people distinguish the

Wager River by the name of *Oŏtkŏŏseĕk-sălik*,* we were at first led to conjecture that they procured their pots, or the material for making them, in that neighbourhood: this, however, they assured us was not the case, the whole of them coming from Akkoolee, where the stone is found in very high situations. One of the women at Winter Island, who came from that country, said that her parents were much employed in making these pots, chiefly it seems as articles of barter. The asbestos which they use in the shape of a roundish pointed stick, called *tatko*, for trimming the lamps, is met with about Repulse Bay, and generally as they said on low land.

Besides the ootkooseeks, they have circular and oval vessels of whalebone of various sizes which, as well as their ivory knives made out of a walrus' tusk, (16.) are precisely similar to those described on the western coast of Baffin's Bay in 1820†. They have also a number of smaller vessels of skin sewed neatly together; and a large basket of the same material, resembling a common sieve in shape, but with the bottom close and tight, is to be seen in every apartment. Under every lamp stands a sort of "save-all," consisting of a small skin basket for catching the oil that falls over. Almost every family was in possession of a wooden tray very much resembling those used to carry butchers' meat in England, and of nearly the same dimensions, which we understood them to have procured by way of Noowook. They had a number of the bowls or cups already once or twice alluded to as being made out of the thick root of the horn of the musk-ox. (26.) Of the smaller part of the same horn they also form a convenient drinking-cup, (9.) sometimes turning it up artificially about one-third from the point, so as to be almost parallel to the other part, and cutting it full of small notches as a convenience in grasping it. (8.) These or any other vessel for drinking they call *Immōochiuk*.

Besides the ivory knives, the men were well supplied with a much more serviceable kind, made of iron, and called *panna*. (14.) The form of this knife is very peculiar, being seven inches long, two and a quarter broad, quite straight and flat, pointed at the end, and ground equally sharp at both edges; this is firmly secured into a handle of bone or wood, above a foot long, by two or three iron rivets. This formidable looking weapon, of which Cap-

* It will be seen by the chart that the Esquimaux gave us information of an arm of the sea lying opposite to Wager River, on the Northern Coast of America, which they also distinguish by the same name, and which is only one or two days' journey distant from the other.

† Journal of the Voyage of 1819-20, p. 286.

tain Lyon's drawing renders any further description unnecessary, has the appearance of a most destructive spear head, but is nevertheles put to no other purpose than that of a very useful knife, which the men are scarcely ever without, especially on their sealing excursions. For these, and several knives of European form, they are probably indebted to an indirect communication with our factories in Hudson's Bay. The same may be observed of the best of their women's knives, *(ooloo,)* on one of which, of a larger size than usual, were the names of " Wild and Sorby." When of their own manufacture, the only iron part was a little narrow slip let into the bone and secured by rivets. (27.) It would be superfluous to offer any further verbal description of these knives, of which Crantz has put one into the hand of a Greenland woman in plate 3, p. 136, of his first volume. It is curious to observe in this and in numerous other instances, how exactly, amidst all the diversity of time and place, these people have preserved unaltered their manners and habits. That which an absurd dread of innovation does in China, the want of intercourse with other nations has effected among the Esquimaux.

Of the horn of the musk-ox they make also very good spoons much like ours in shape; and I must not omit to mention their marrow-spoons, *(pattĕkniuk*, from *pāttĕk*, marrow,) made out of long narrow hollowed pieces of bone, of which every housewife has a bunch of half a dozen or more tied together, and generally attached to her needle-case. (25.)

For the purpose of obtaining fire the Esquimaux use two lumps of common iron pyrites, from which sparks are struck into a little leathern case, containing moss well dried and rubbed between the hands. If this tinder does not readily catch, a small quantity of the white floss of the seed of the ground willow is laid above the moss. As soon as a spark has caught, it is gently blown till the fire has spread an inch around, when, the pointed end of a piece of oiled wick being applied, it soon bursts into a flame, the whole process having occupied perhaps two or three minutes.

Among the articles in their possession, which must have been obtained by communication along shore with Hudson's Bay, were two large copper kettles, several open knives with crooked wooden handles, and many fragments of copper, iron, and old files. On a small European axe was observed the name of " Foster *."

* It may perhaps be the means of saving useless conjectures at some future time to mention, that on several knives made by the armourer of the Hecla, the name of "James Wilkes" was marked, together with the Prince of Wales's feathers.

In enumerating the articles of their food we might perhaps give a list of every animal inhabiting these regions, as they certainly will at times eat any one of them. Their principal dependence however is on the rein-deer, *(tōoktoŏ;)* musk-ox, *(oōmĭngmŭk,)* in the parts where this animal is found; whale, *(āggăwĕk;)* walrus, *(ĕi-ŭ-ĕk;)* the large and small seal, *(ōgŭke* and *nēitiek;)* and two sorts of salmon, the *ēwĕe-tārŏke, (salmo alpinus?)* and *ichlūŏwŏke.* The latter is taken by hooks in fresh-water lakes, and the former by spearing in the shoal water of certain inlets of the sea. Of all these animals, they can only procure in the winter the walrus and small seal upon this part of the coast; and these at times, as we have seen, in scarcely sufficient quantity for their subsistence.

They certainly in general prefer eating their meat cooked, and while they have fuel they usually boil it; but this is a luxury and not a necessary to them. Oily as the nature of their principal food is, yet they commonly take an equal proportion of lean to their fat, and unless very hungry do not eat it otherwise. Oil they seldom or never use in any way as a part of their general diet; and even our butter, of which they were fond, they would not eat without a due quantity of bread *. They do not like salt meat as well as fresh, and never use salt themselves; but ship's pork or even a red herring did not come amiss to them. Of pea-soup they would eat as much as the sailors could afford to give them; and that word was the only one, with the exception of our names, which many of them ever learned in English. Among their own luxuries must be mentioned a rich soup called *kāyŏ,* made of blood, gravy, and water, and eaten quite hot. In obtaining the names of several plants, which will be found in the vocabulary, we learned that they sometimes eat the leaves of sorrel, *(kōngŏlek,)* and those of the ground willow; as also the red berries, *(paōona-rootik,)* of the *vaccinum uliginosum,* and the root of the *potentilla pulchella;* but these cannot be said to form a part of their regular diet; scurvy grass they never eat.

Their only drink is water; and of this when they can procure it they swallow an inconceivable quantity; so that one of the principal occupations of the women during the winter is the thawing of snow in the ootkooseks for this purpose. They cut it into thin slices, and are careful to have it clean, on

* Toolooak, who was a frequent visitor at the young gentlemen's mess-table on board the Fury, once evinced this taste, and no small cunning at the same time, by asking alternately for a little more bread, and a little more butter, till he had made a hearty meal.

which account they will bring it from a distance of fifty yards from the huts. They have an extreme dislike to drinking water much above the temperature of 32°. In eating their meals the mistress of the family, having previously cooked the meat, takes a large lump out of the pot with her fingers and hands it to her husband, who placing a part of it between his teeth cuts it off with a large knife in that position, and then passes the knife and meat together to his next neighbour. In cutting off a mouthful of meat the knife passes so close to their lips, that nothing but constant habit could ensure them from the danger of the most terrible gashes; and it would make an English mother shudder to see the manner in which children, five or six years old, are at all times freely trusted with a knife to be used in this way.

The length of one of the best of seven canoes belonging to these Esquimaux was twenty-five feet, including a narrow-pointed projection, three feet long at each end, which turns a little upward from the horizontal. The extreme breadth, which is just before the circular hole, was twenty-one inches and the depth ten inches and a half. The plane of the upper surface of the canoe, except in the two extreme projections, bends downwards a little from the centre towards the head and stern, giving it the appearance of what in ships is called "broken-backed." The gunwales are of fir, in some instances of one piece, three or four inches broad in the centre and tapering gradually away towards the ends. The timbers, as well as the fore-and-aft connecting pieces, are of the same material, the former being an inch square, and sometimes so close together as to require between forty and fifty of them in one canoe; which when thus "in frame" is one of the prettiest things of the kind that can be imagined. The skin with which the canoe is covered is exclusively that of the *neitick*, prepared by scraping off the hair and fat with an *ooloo*, and stretching it tight on a frame over the fire; after which and a good deal of chewing, it is sewn on by the women with admirable neatness and strength. Their paddles have a blade at each end, the whole length being nine feet and a half; the blades are covered with a narrow plate of bone round the ends to secure them from splitting: they are always made of fir, and generally of several pieces scarfed and woolded together.

In summer they rest their canoes upon two small stones raised four feet from the ground; and in winter, on a similar structure of snow; in one case to allow them to dry freely, and in the other to prevent the

snow-drift from covering, and the dogs from eating them. The difficulty of procuring a canoe may be concluded from the circumstance of there being at Winter Island twenty men able to manage one, and only seven canoes among them. Of these indeed only three or four were in good repair; the rest being wholly or in part stripped of the skin, of which a good deal was occasionally cut off during the winter, to make boots, shoes, and mittens for our people. We found no *oomiak*, or women's boat, among them, and understood that they were not in the habit of using them, which may in part be accounted for by their passing so much of the summer in the interior; they knew very well however what they were, and made some clumsy models of them for our people.

In the weapons used for killing their game there is considerable variety, according to the animal of which they are in pursuit. The most simple of these is the *ōonăk*, which they use only for killing the small seal. It consists of a light staff of wood, four feet in length, having at one end the point of a narwhal's horn, from ten to eighteen inches long, firmly secured by rivets and wooldings: at the other end, is a smaller and less effective point of the same kind. To prevent losing the ivory part, in case of the wood breaking, a stout thong runs along the whole length of the wood, each end passing through a hole in the ivory, and the bight secured in several places to the staff. In this weapon, as far as it has yet been described, there is little art or ingenuity displayed; but a considerable degree of both in an appendage called *siätkŏ* (13), consisting of a piece of bone three inches long, and having a point of iron at one end, and at the other end a small hole or socket to receive the point of the oonak. Through the middle of this instrument is secured the *ăllek*, or line of thong, of which every man has, when sealing, a couple of coils, each from four to six fathoms long, hanging at his back. These are made of the skin of the *oguke* as in Greenland *, and are admirably adapted to the purpose, both on account of their strength, and the property which they possess of preserving their pliability even in the most intense frost.

When a seal is seen, the siatko is taken from a little leathern case in which, when out of use, it is carefully enclosed, and attached by its socket to the point of the spear (18); in this situation it is retained by bringing the allek tight down and fastening it round the middle of the staff by what seamen call a "slippery hitch," which may instantly be disengaged

* Crantz, I., 125.

by pulling on the other end of the line. As soon as the spear has been thrown, and the animal struck, the siatko is thus purposely separated, and being slung by the middle now performs very effectually the important office of a barb, by turning at right angles to the direction in which it has entered the orifice. This device is in its principle superior even to our barb; for the instant any strain is put upon the line it acts like a toggle, opposing its length to a wound only as wide as its own breadth.

The *ăklĕak*, or *akleēgă*, used for the large seal, has a blown bladder attached to the staff, for the purpose of impeding the animal in the water (18). The weapon with two long parallel prongs of bone or iron, obtained from the natives of the Savage Islands, these people also called *akleak*, and said it was for killing seals.

The third and largest weapon is that called *katteelik* (20), with which the walrus and whale are attacked. The staff of this is not longer, but much stouter than that of the others, especially towards the middle, where there is a small shoulder of ivory securely lashed to it for the thumb to rest against, and thus to give additional force in throwing or thrusting the spear. The ivory point of this weapon is made to fit into a socket at the end of the staff, where it is secured by double thongs (21), in such a manner as steadily to retain its position when a strain is put upon it in the direction of its length, but immediately disengaging itself with a sort of spring, when any lateral strain endangers its breaking. The siatko is always used with this spear; and to the end of the allek, when the animal pursued is in open water, they attach a whole seal-skin, *(hŏw-wūt-tă,)* inflated like a bladder, for the purpose of tiring it out in its progress through the water.

They have a spear called *ĭppoo* for killing deer in the water. They described it as having a light staff and a small head of iron; but they had none of these so fitted in the winter. The *nūgŭee*, or dart for birds (19), has, besides its two ivory prongs at the end of the staff, three divergent ones in the middle of it, with several small double barbs upon them turning inwards; they differ from the *nuguit* of Greenland *, and that of the Savage Islands, in having these prongs always of unequal lengths. To give additional velocity to the bird-dart, they use a throwing-stick (*noke-shak*) which is probably the same as the "hand-board" figured by Crantz. It consists of a flat board about eighteen inches in length, having a groove to receive the staff, two others and a hole for the fingers and thumb, and a small spike fitted for a hole in the end of the

* Crantz.

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staff. This instrument is used for the bird-dart only. The spear for salmon or other fish, called *kăkkĕe-wĕi*, consists of a wooden staff with a spike of bone or ivory, three inches long, secured at one end. On each side of the spike is a curved prong, much like that of a pitch-fork, but made of flexible horn which gives them a spring, and having a barb on the inner part of the point turning downwards. Their fish-hooks (*kakliŏkia*) consist only of a nail crooked and pointed at one end, the other being let into a piece of ivory to which the line is attached. A piece of deer's horn or curved bone, only a foot long, is used as a rod, and completes this very rude part of their fishing-gear (10).

Of their mode of killing seals in the winter, I have already spoken in the course of the foregoing narrative, as far as we were enabled to make ourselves acquainted with it. In their summer exploits on the water, the killing of the whale is the most arduous undertaking which they have to perform; and one cannot sufficiently admire the courage and activity which, with gear apparently so inadequate, it must require to accomplish this business. Okotook, who was at the killing of two whales in the course of a single summer, and who described the whole of it quite *con amore*, mentioned the names of thirteen men who, each in his canoe, had assisted on one of these occasions. When a fish is seen lying on the water, they cautiously paddle up astern of him till a single canoe, preceding the rest, comes close to him on one quarter, so as to enable the man to drive the *katteelik* into the animal with all the force of both arms. This having the *siatko*, a long *allek*, and the inflated seal-skin attached to it, the whale immediately dives, taking the whole apparatus with him except the katteelik which, being disengaged in the manner before described, floats to the surface and is picked up by its owner. The animal re-appearing after some time, all the canoes again paddle towards him, some warning being given by the seal-skin buoy floating on the surface. Each man being furnished like the first, they repeat the blows as often as they find opportunity, till perhaps every line has been thus employed. After pursuing him in this manner, sometimes for half a day, he is at length so wearied by the resistance of the buoys, and exhausted by loss of blood, as to be obliged to rise more and more often to the surface when, by frequent wounds with their spears, they succeed in killing him, and tow their prize in triumph to the shore. It is probable that with the whale, as with the smaller sea-animals, some privilege or perquisite is given to the first striker; and, like our own fishermen, they take a pride in having it known

that their spear has been the first to inflict a wound. They meet with the most whales on the coast of *Eiwillik*.

In attacking the walrus in the water, they use the same gear, but much more caution than with the whale, always throwing the *katteelik* from some distance, lest the animal should attack the canoe and demolish it with his tusks. The walrus is in fact the only animal with which they use any caution of this kind. They like the flesh better than that of the seal; but venison is preferred by them to either of these, and indeed to any other kind of meat.

At Winter Island they carefully preserved the heads of all the animals killed during the winter, except two or three of the walrus which we obtained with great difficulty. There is probably some superstition attached to this, but they told us that they were to be thrown into the sea in the summer, which a Greenlander* studiously avoids doing; and indeed, at Igloolik, they had no objection to part with them before the summer arrived. As the blood of the animals which they kill is all used as food of the most luxurious kind, they are careful to avoid losing any portion of it; for this purpose they carry with them on their excursions a little instrument of ivory called *tŏopoōtă*, in form and size exactly resembling a "twenty-penny" nail (25), with which they stop up the orifice made by the spear, by thrusting it through the skin by the sides of the wound, and securing it with a twist. I must here also mention a simple little instrument called *keipkŭttuk*, being a slender rod of bone nicely rounded, and having a point at one end and a knob or else a laniard at the other (17). The use of this is to thrust through the ice where they have reason to believe a seal is at work underneath. This little instrument is sometimes made as delicate as a fine wire, that the seal may not see it; and a part still remaining above the surface informs the fishermen by its motion whether the animal is employed in making his hole: if not, it remains undisturbed, and the attempt is given up in that place.

One of the best of their bows was made of a single piece of fir, four feet eight inches in length, flat on the inner side and rounded on the outer, being five inches in girth about the middle where, however, it is strengthened on the concave side, when strung, by a piece of bone ten inches long, firmly secured by tree-nails of the same material. At each end of the bow

* Crantz, I., 216.

is a knob of bone, or sometimes of wood covered with leather, with a deep notch for the reception of the string. The only wood which they can procure, not possessing sufficient elasticity combined with strength, they ingeniously remedy the defect by securing to the back of the bow, and to the knobs at each end, a quantity of small lines, each composed of a plat or "sinnet" of three sinews. The number of lines thus reaching from end to end is generally about thirty; but besides these, several others are fastened with hitches round the bow, in pairs, commencing eight inches from one end, and again united at the same distance from the other, making the whole number of strings in the middle of the bow sometimes amount to sixty. These being put on with the bow somewhat bent the contrary way, produce a spring so strong as to require considerable force as well as knack in stringing it, and giving the requisite velocity to the arrow. The bow is completed by a woolding round the middle and a wedge or two, here and there, driven in to tighten it. A bow in one piece is however very rare; they generally consist of from two to five pieces of bone of unequal lengths, secured together by rivets and tree-nails (22).

The arrows vary in length from twenty to thirty inches, according to the materials that can be commanded. About two-thirds of the whole length is of fir rounded, and the rest of bone let by a socket into the wood, and having a head of thin iron, or more commonly of slate, secured into a slit by two tree-nails. Towards the opposite end of the arrow are two feathers, generally of the spotted oval, not very neatly lashed on *. The bow-string consists of from twelve to eighteen small lines of three-sinew sinnet, having a loose twist, and with a separate becket of the same size for going over the knobs at the end of the bow.

We tried their skill in archery by getting them to shoot at a mark for a prize, though with bows in extremely bad order on account of the frost and their hands very cold. The mark was two of their spears stuck upright in the snow, their breadth being three inches and a half. At twenty yards they struck this every time; at thirty sent the arrows always within an inch or two of it; and at forty or forty-five yards, I should think, would generally hit a fawn if the animal stood still. These weapons are perhaps sufficient to inflict a mortal wound at something more than that distance, for which,

* An arrow-head of a more complicated form, but of which we did not discover the particular use, is figured in the engraving (15).

however, a strong arm would be required. The animals which they kill with the bow and arrow for their subsistence are principally the musk-ox and deer, and less frequently the bear, wolf, fox, hare, and some of the smaller animals.

It is a curious fact, that the musk-ox is very rarely found to extend his migrations to the eastward of a line passing through Repulse Bay, or about the meridian of 86° West, while, in a northern direction, we know that he travels as far as the seventy-sixth degree of latitude. In Greenland this animal is known only by vague and exaggerated report; on the western coast of Baffin's Bay it has certainly been seen, though very rarely, by the present inhabitants; and the eldest person belonging to the Winter Island tribe had never seen one to the eastward of *Eiwillik*, where, as well as at *Akkōōleĕ*, they are said to be numerous on the banks of fresh-water lakes and streams. The few men who had been present at the killing of one of these creatures, seemed to pride themselves very much upon it. Toolooak, who was about seventeen years of age, had never seen either the musk-ox or the *kābleĕ-ārioo*, a proof that the latter, also, is not common in this corner of America.

The rein-deer are killed by the Esquimaux in great abundance in the summer season, partly by driving them from islands or narrow necks of land into the sea, and then spearing them from their canoes; and partly by shooting them from behind heaps of stones raised for the purpose of watching them, and imitating their peculiar bellow or grunt. Among the various artifices which they employ for this purpose, one of the most ingenious consists in two men walking directly *from* the deer they wish to kill, when the animal almost always follows them. As soon as they arrive at a large stone, one of the men hides behind it with his bow, while the other continuing to walk on soon leads the deer within range of his companion's arrows. They are also very careful to keep to leeward of the deer, and will scarcely go out after them at all when the weather is calm. For several weeks in the course of the summer, some of these people almost entirely give up their fishery on the coast, retiring to the banks of lakes several miles in the interior, which they represent as large and deep and abounding with salmon, while the pasture near them affords good feeding to numerous herds of deer.

The distance to which these people extend their inland migrations, and the extent of coast of which they possess a personal knowledge, are really very considerable. Of these we could at the time of our first intercourse form

no correct judgment, from our uncertainty as to the length of what they call a *seenik* (sleep), or one day's journey, by which alone they could describe to us, with the help of their imperfect arithmetic, the distance from one place to another. But our subsequent knowledge of the coast has cleared up much of this difficulty, affording the means of applying to their hydrographical sketches a tolerably accurate scale for those parts which we have not hitherto visited. A great number of these people, who were born at Amitioke and Igloolik, had been to *Noowook*, or nearly as far south as Chesterfield Inlet, which is about the *ne plus ultra* of their united knowledge in a southerly direction. Not one of them had been by water round to Akkoolee, but several by land; in which mode of travelling they only consider that country from three to five days' journey from Repulse Bay. Okotook and a few others of the Winter Island tribe have extended their peregrinations a considerable distance to the northward, over the large insular piece of land to which we have applied the name of Cockburn Island; which they described as high land, and the resort of numerous rein-deer. Here Okotook informed us he had seen icebergs, which these people call by a name (*pĭccălōoŋăk*) having in its pronunciation some affinity to that used in Greenland*. By the information afterwards obtained when nearer the spot, we had reason to suppose this land must reach beyond the seventy-second degree of latitude in a northerly direction; so that these people possess a personal knowledge of the Continent of America and its adjacent islands, from that parallel to Chesterfield Inlet in 63¾°, being a distance of more than five hundred miles reckoned in a direct line, besides the numerous turnings and windings of the coast along which they are accustomed to travel. Ewerat and some others had been a considerable distance up the Wager River; but no record had been preserved among them of Captain Middleton's visit to that inlet about the middle of the last century.

Of the continental shore to the westward of Akkoolee, the Esquimaux invariably disclaimed the slightest personal knowledge; for no land can be seen in that direction from the hills. They entertain, however, a confused idea that neither Esquimaux nor Indians could there subsist for want of food. Of the Indians they know enough by tradition to hold them in considerable dread, on account of their cruel and ferocious manners. When, on one occasion, we related the circumstances of the inhuman massacre

* *Illuliak.*

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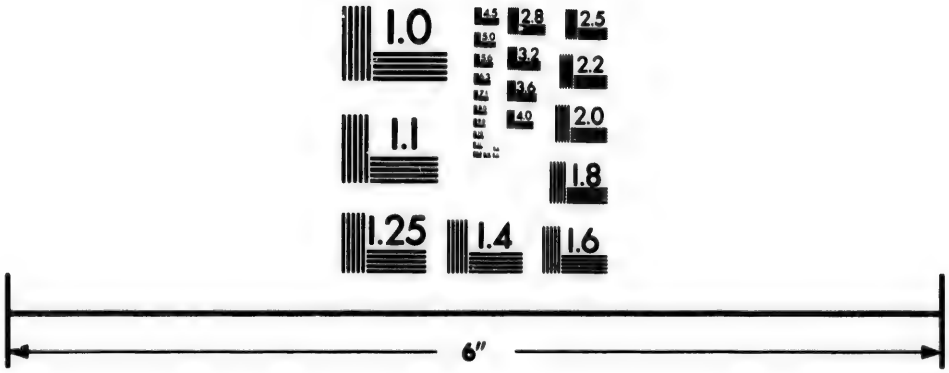

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described by Hearne, they crowded round us in the hut, listening with mute and almost breathless attention; and the mothers drew their children closer to them, as if to guard them from the dreadful catastrophe. It is worthy of notice, that they call the Indians by a name (*Eĕrt-kĕi-lĕe*) which appears evidently the same as that * applied by the Greenlanders to the man-eaters supposed to inhabit the eastern coast of their country, and to whom terror has assigned a face like that of a dog.

The Esquimaux take some animals in traps, and by a very ingenious contrivance of this kind they caught two wolves at Winter Island. It consists of a small house built of ice, at one end of which a door, made of the same plentiful material, is fitted to slide up and down in a groove; to the upper part of this a line is attached and, passing over the roof, is led down into the trap at the inner end, and there held by slipping an eye in the end of it over a peg of ice left for the purpose. Over the peg, however, is previously placed a loose grummet, to which the bait is fastened, and a false roof placed over all to hide the line. The moment the animal drags at the bait the grummet slips off the peg, bringing with it the line that held up the door, and this falling down closes the trap and secures him.

A trap for birds is formed by building a house of snow just large enough to contain one person, who closes himself up in it. On the top is left a small aperture, through which the man thrusts one of his hands to secure the bird the moment he alights to take away a bait of meat laid beside it. It is principally gulls that are taken thus; and the boys sometimes amuse themselves in this manner. A trap in which they catch foxes has been mentioned in another place.

The sledges belonging to these Esquimaux were in general large and heavily constructed, being more adapted to the carriage of considerable burdens than to very quick travelling. They varied in size, being from six and a half to nine feet in length, and from eighteen inches to two feet in breadth. Some of those at Igloolik were of larger dimensions, one being eleven feet in length, and weighing two hundred and sixty-eight pounds, and two or three others above two hundred pounds. The runners are sometimes made of the right and left jaw-bones of a whale; but more commonly of several pieces of wood or bone scarfed and lashed together, the interstices being filled to make all smooth and firm with moss stuffed

* *Erkiglit.* Crantz, I. 208, 269.

in tight, and then cemented by throwing water to freeze upon it. The lower part of the runner is shod with a plate of harder bone, coated with fresh-water ice to make it run smoothly, and to avoid wear and tear, both which purposes are thus completely answered. This coating is performed with a mixture of snow and fresh-water about half an inch thick, rubbed over it till it is quite smooth and hard upon the surface, and this is usually done a few minutes before setting out on a journey. When the ice is only in part worn off, it is renewed by taking some water into the mouth, and spirting it over the former coating. We noticed a sledge which was extremely curious, on account of one of the runners and a part of the other being constructed without the assistance of wood, iron, or bone of any kind. For this purpose, a number of seal-skins being rolled up and disposed into the requisite shape, an outer coat of the same kind was sewed tightly round them; this formed the upper half of the runner, the lower part of which consisted entirely of moss moulded while wet into the proper form, and being left to freeze, adhering firmly together and to the skins. The usual shoeing of smooth ice beneath completed the runner, which for more than six months out of twelve, in this climate, was nearly as hard as any wood; and for winter use, no way inferior to those constructed of more durable materials. The cross-pieces which form the bottom of the sledge are made of bone, wood, or any thing they can muster. Over these is generally laid a seal-skin as a flooring, and in the summer-time a pair of deer's horns are attached to the sledge as a back, which in the winter are removed, to enable them when stopping to turn the sledge up, so as to prevent the dogs running away with it. The whole is secured by lashings of thong, giving it a degree of strength combined with flexibility which perhaps no other mode of fastening could effect.

The dogs of the Esquimaux, of which these people possessed above a hundred, have been so often described that there may seem little left to add respecting their external appearance, habits, and use. Our visits to Igloolik having, however, made us acquainted with some not hitherto described, I shall here offer a further account of these invaluable animals. In the form of their bodies, their short pricked ears, thick furry coat, and bushy tail, they so nearly resemble the wolf of these regions that, when of a light or brindled colour, they may easily at a little distance be mistaken for that animal. To an eye accustomed to both, however, a difference is perceptible in the wolf's always keeping his head down, and his tail

between his legs in running, whereas the dogs almost always carry their tails handsomely curled over the back. A difference less distinguishable, when the animals are apart, is the superior size and more muscular make of the wild animal, especially about the breast and legs. The wolf is also, in general, full two inches taller than any Esquimaux dog we have seen; but those met with in 1818, in the latitude of 76°, appear to come nearest to it in that respect. The tallest dog at Igloolik stood two feet one inch from the ground, measured at the withers; the average height was about two inches less than this.

The colour of the dogs varies from a white, through brindled, to black and white, or almost entirely black. Some are also of a reddish or ferruginous colour, and others have a brownish-red tinge on their legs, the rest of their bodies being of a darker colour, and these last were observed to be generally the best dogs. Their hair in the winter is from three to four inches long; but besides this, nature furnishes them during this rigorous season, with a thick under coating of close soft wool, which they begin to cast in the spring. While thus provided, they are able to withstand the most inclement weather without suffering from the cold, and at whatever temperature the atmosphere may be they require nothing but a shelter from the wind to make them comfortable, and even this they do not always obtain. They are also wonderfully enabled to endure the cold even on those parts of the body which are not thus protected, for we have seen a young puppy sleeping, with its bare paw laid on an ice-anchor, with the thermometer at − 30°, which with one of our dogs would have produced immediate and intense pain, if not subsequent mortification. They never bark, but have a long melancholy howl like that of the wolf, and this they will sometimes perform in concert for a minute or two together. They are besides always snarling and fighting among one another, by which several of them are generally lame. When much caressed and well-fed, they become quite familiar and domestic; but this mode of treatment does not improve their qualities as animals of draught. Being desirous of ascertaining whether these dogs are wolves in a state of domestication, a question which we understood to have been the subject of some speculation, Mr. Skeoch at my request made a skeleton of each, when the number of all the vertebræ was found to be the same in both *, and to correspond with the well-known anatomy of the wolf.

When drawing a sledge, the dogs have a simple harness (*annoo*) of deer or

* Cervical, 7; dorsal, 18; lumbar, 7; sacral, 3; caudal, 19.

seal-skin, going round the neck by one bight, and another for each of the fore-legs, with a single thong leading over the back and attached to the sledge as a trace. Though they appear at first sight to be huddled together without regard to regularity, there is, in fact, considerable attention paid to their arrangement, particularly in the selection of a dog of peculiar spirit and sagacity, who is allowed, by a longer trace, to precede the rest as leader, and to whom, in turning to the right or left, the driver usually addresses himself. This choice is made without regard to age or sex, and the rest of the dogs take precedency according to their training or sagacity, the least effective being put nearest the sledge. The leader is usually from eighteen to twenty feet from the fore part of the sledge, and the hindmost dog about half that distance, so that when ten or twelve are running together, several are nearly abreast of each other. The driver sits quite low on the fore-part of the sledge, with his feet overhanging the snow on one side, and having in his hand a whip (6.) of which the handle, made either of wood, bone, or whalebone, is eighteen inches, and the lash more than as many feet in length. The part of the thong next the handle is platted a little way down to stiffen it and give it a spring, on which much of its use depends; and that which composes the lash is chewed by the women to make it flexible in frosty weather. The men acquire from their youth considerable expertness in the use of this whip, the lash of which is left to trail along the ground by the side of the sledge, and with which they can inflict a very severe blow on any dog at pleasure. Though the dogs are kept in training entirely by fear of the whip, and indeed without it would soon have their own way, its immediate effect is always detrimental to the draught of the sledge; for not only does the individual that is struck draw back and slacken his trace, but generally turns upon his next neighbour, and this passing on to the next occasions a general divergency, accompanied by the usual yelping and shewing of teeth. The dogs then come together again by degrees, and the draught of the sledge is accelerated; but even at the best of times, by this rude mode of draught the traces of one-third of the dogs form an angle of thirty or forty degrees on each side of the direction in which the sledge is advancing. Another great inconvenience attending the Esquimaux method of putting the dogs to, besides that of not employing their strength to the best advantage, is the constant entanglement of the traces by the dogs repeatedly doubling under from side to side to avoid the whip, so that, after running a few miles, the traces always require to be taken off and cleared.

In directing the sledge the whip acts no very essential part, the driver for this purpose using certain words, as the carters do with us, to make the dogs turn more to the right or left. To these a good leader attends with admirable precision, especially if his own name be repeated at the same time, looking behind over his shoulder with great earnestness, as if listening to the directions of the driver. On a beaten track, or even where a single foot or sledge-mark is occasionally discernible, there is not the slightest trouble in guiding the dogs; for even in the darkest night and in the heaviest snow-drift, there is little or no danger of their losing the road, the leader keeping his nose near the ground, and directing the rest with wonderful sagacity. Where, however, there is no beaten track, the best driver among them makes a terribly circuitous course, as all the Esquimaux roads plainly shew; these generally occupying an extent of six miles, when with a horse and sledge the journey would scarcely have amounted to five. On rough ground, as among hummocks of ice, the sledge would be frequently overturned or altogether stopped if the driver did not repeatedly get off, and by lifting or drawing it to one side steer it clear of those accidents. At all times, indeed, except on a smooth and well-made road, he is pretty constantly employed thus with his feet, which, together with his never-ceasing vociferations and frequent use of the whip, renders the driving of one of these vehicles by no means a pleasant or easy task. When the driver wishes to stop the sledge, he calls out "Wo, woa," exactly as our carters do, but the attention paid to this command depends altogether on his ability to enforce it. If the weight is small and the journey homeward, the dogs are not to be thus delayed; the driver is therefore obliged to dig his heels into the snow to obstruct their progress; and having thus succeeded in stopping them, he stands up with one leg before the foremost cross-piece of the sledge till, by means of laying the whip gently over each dog's head, he has made them all lie down. He then takes care not to quit his position; so that should the dogs set off he is thrown upon the sledge, instead of being left behind by them.

With heavy loads the dogs draw best with one of their own people, especially a woman, walking a little way a-head; and in this case they are sometimes enticed to mend their pace by holding a mitten to the mouth, and then making the motion of cutting it with a knife, and throwing it on the snow, when the dogs mistaking it for meat, hasten forward to pick it up. The women also entice them from the huts in a similar manner. The rate at which they

travel depends, of course, on the weight they have to draw and the road on which their journey is performed. When the latter is level and very hard and smooth, constituting what in other parts of North America is called "good sleighing," six or seven dogs will draw from eight to ten hundred weight, at the rate of seven or eight miles an hour for several hours together, and will easily under those circumstances perform a journey of fifty or sixty miles a day; on untrodden snow, five-and-twenty or thirty miles would be a good day's journey. The same number of well-fed dogs, with a weight of only five or six hundred pounds (that of the sledge included) are almost unmanageable, and will on a smooth road run any way they please at the rate of ten miles an hour. The work performed by a greater number of dogs is, however, by no means in proportion to this; owing to the imperfect mode already described of employing the strength of these sturdy creatures, and to the more frequent snarling and fighting occasioned by an increase of numbers.

In the summer, when the absence of snow precludes the use of sledges, the dogs are still made useful on journeys and hunting excursions, by being employed to carry burdens in a kind of saddle-bags laid across their shoulders. A stout dog thus accoutred will accompany his master, laden with a weight of about twenty to twenty-five pounds. When leading the dogs, the Esquimaux take a half hitch with the trace round their necks to prevent their pulling, and the same plan is followed when a sledge is left without a keeper. They are also in the habit of tethering them, when from home, by tying up one of the four legs; but a still more effectual method is similar to that which we saw employed by the Greenlanders of Prince Regent's Bay, and consists in digging with their spears two holes in the ice in an oblique direction and meeting each other, so as to leave an eye-bolt to which the dogs are fastened.

The scent of the Esquimaux dogs is excellent; and this property is turned to account by their masters in finding the seal holes, which these invaluable animals will discover entirely by the smell at a very great distance. The track of a single deer upon the snow will in like manner set them off at a full gallop, when travelling, at least a quarter of a mile before they arrive at it, when they are with difficulty made to turn in any other direction; and the Esquimaux are accustomed to set them after those animals to hunt them down when already wounded with an arrow. In killing bears the dogs act a very essential part, and two or three of them when led on by a man will eagerly

attack one of those ferocious creatures. An Esquimaux seldom uses any other weapon than his spear and *panna* in this encounter, for which the readiness of the dogs may be implied from the circumstance of the word "nennook" (bear) being often used to encourage them when running in a sledge. Indeed the only animal which they are not eager to chase is the wolf, of which the greater part of them seem to have an instinctive dread, giving notice at night of their approach to the huts by a loud and continued howl. There is not one dog in twenty among them that will voluntarily, or indeed without a great deal of beating, take the water if they think it is out of their depth, and the few that would do so were spoken of as extraordinary exceptions.

The Esquimaux in general treat their dogs much as an unfeeling master does his slaves; that is, they take just as much care of them as their own interest is supposed to require. The bitches with young are in the winter allowed to occupy a part of their own beds, where they are carefully attended and fed by the women, who will even supply the young ones with meat and water from their mouths as they do their own children, and not unfrequently also carry them in their hoods to take care of them. It is probably on this account that the dogs are always so much attached to the women, who can at any time catch them or entice them from the huts, when the men fail. Two females that were with young on board the Fury in the month of February brought forth six and seven at a litter, and the former number were all females. Their feeding which, both in summer and winter, principally consists of *kāŏw*, or the skin and part of the blubber of the walrus, is during the latter season very precarious, their masters having then but little to spare. They therefore become extremely thin at that time of the year, and would scarcely be recognised as the same animals as when regularly fed in the summer. No wonder therefore that they will eat almost any thing however tough or filthy, and that neither whipping nor shouting will prevent their turning out of the road, even when going at full speed, to pick up whatever they espy. When at the huts they are constantly creeping in to pilfer what they can, and half the time of the people sitting there is occupied in vociferating their names, and driving them by most unmerciful blows out of the apartments. The dogs have no water to drink during the winter, but lick up some clean snow occasionally as a substitute; nor indeed if water be offered them do they care about it unless it happens to be oily. They take great pleasure in rolling in clean snow, especially after or during a journey, or when they have been confined in a house during the night.

Notwithstanding the rough treatment which they receive from their masters their attachment to them is very great, and this they display after a short absence by jumping up and licking their faces all over with extreme delight. The Esquimaux however never caress them, and indeed scarcely ever take any notice of them but when they offend, and they are then not sparing in their blows. The dogs have all names to which they attend with readiness, whether drawing in a sledge or otherwise. Their names are frequently the same as those of the people, and in some instances are given after the relations of their masters, which seems to be considered an act of kindness among them. Upon the whole, notwithstanding the services performed by these valuable creatures, I am of opinion that art cannot well have done less towards making them useful, and that the same means in almost any other hands would be employed to greater advantage.

In the disposition of these people, there was of course among so many individuals considerable variety as to the minute points; but in the general features of their character, which with them are not subject to the changes produced by foreign intercourse, one description will nearly apply to all. The virtue which, as respected ourselves, we could most have wished them to possess is honesty, and the impression derived from the early part of our intercourse was certainly in this respect a favourable one. A great many instances occurred, some of which have been related, where they appeared even scrupulous in returning articles that did not belong to them; and this too when detection of a theft, or at least of the offender, would have been next to impossible. As they grew more familiar with us, and the temptations became stronger, they gradually relaxed in their honesty, and petty thefts were from time to time committed by several individuals both male and female among them.

The bustle which any search for stolen goods occasioned at the huts was a sufficient proof of their understanding the estimation in which the crime was held by us. Until the affair was cleared up, they would affect great readiness to shew every article which they had got from the ships, repeating the name of the donor with great warmth as if offended at our suspicions, yet with a half-smile on their countenance at our supposed credulity in believing them. There was indeed at all times some degree of trick and

cunning in this shew of openness and candour; and they would at times bring back some very trifling article that had been given them tendering it as a sort of expiation for the theft of another much more valuable. When a search was making they would invent all sorts of lies to screen themselves, not caring on whom besides the imputation fell; and more than once, they directed our people to the apartments of others who were innocent of the offence in question. If they really knew the offendert hey were generally ready enough to inform against him, and this with an air of affected secrecy and mysterious importance; and as if the dishonesty of another constituted a virtue in themselves, they would repeat this information frequently, perhaps for a month afterwards, setting up their neighbour's offence as a foil to their own pretended honesty.

In appreciating the character of these people for honesty, however, we must not fail to make due allowance for the degree of temptation to which they were daily exposed, amidst the boundless stores of wealth which our ships appeared to them to furnish. To draw a parallel case, we must suppose an European of the lower class suffered to roam about amidst hoards of gold and silver; for nothing less valuable can be justly compared with the wood and iron that every where presented themselves to their view on board the ships. The European and the Esquimaux, who in cases so similar, both resist the temptation of stealing, must be considered pretty nearly on a par in the scale of honesty; and judging in this manner, the balance might possibly be found in favour of the latter, when compared with any similar number of Europeans taken at random from the lower class.

In what has been hitherto said, regard has been had only to their dealings with *us*. In their transactions among themselves there is no doubt that, except in one or two privileged cases, such as that of destitute widows, the strictest honesty prevails, and that as regards the good of their own community they are generally honest people. We have in numberless instances sent presents by one to another, and invariably found that they had been faithfully delivered. The manner in which their various implements are frequently left outside their huts is a proof, indeed, that robbery is scarcely known among them. It is true that there is not an article in the possession of one of them, of which any of the rest will not readily name the owner, and the detection of a theft would therefore be certain and immediate.

Certainty of detection however among a lawless and ferocious people, instead of preventing robbery, would more probably add violence and murder to the first crime, and the strongest would ultimately gain the upper hand. We cannot therefore but admire the undisturbed security in which these people hold their property, without having recourse to any restraint beyond that which is incurred by the tacitly-received law of mutual forbearance.

In the barter of their various commodities their dealings with us were fair and upright, though latterly they were by no means backward or inexpert in driving a bargain. The absurd and childish exchanges* which they at first made with our people, induced them subsequently to complain that the Kabloonas had stolen their things, though the profit had been eventually a hundred-fold in their favour. Many such complaints were made, when the only fault in the purchaser had been excessive liberality, and frequently also as a retort, by way of warding off the imputation of some dishonesty of their own. A trick not uncommon with the women was, to endeavour to excite the commiseration, and to tax the bounty of one person by relating some cruel theft of this kind, that had, as they said, been practised upon them by another. One day, after I had bought a knife of Togolat, she told Captain Lyon, in a most piteous tone, that *Parree* had stolen her last *ooloo*, that she did not know what to do without one, and at length coming to the point begged him to give her one. Presently after this, her husband coming in and asking for something to eat, she handed him some meat accompanied by a very fine ooloo. Her son being thus reminded of eating made the same request, upon which a second knife was produced and, immediately after, a third of the same kind for herself. Captain Lyon, having amused himself in watching these proceedings, which so well confirmed the truth of the proverb, that certain people ought to have good memories, now took the knives, one by one, out of their hands, and holding them up to Togolat, asked her if Parree had not stolen her last ooloo. A hearty laugh all round was the only notice taken by them of this direct detection of the deceit.

The confidence which they really placed in us was daily and hourly evinced by their leaving their fishing gear stuck in the snow all round the ships; and not a single instance occurred, to my knowledge, of any theft

* Crantz, I. 173.

committed on their property. The licking of the articles received from us was not so common with them as with Esquimaux in general, and this practice was latterly almost entirely left off by them.

Among the unfavourable traits in their character must be reckoned an extreme disposition to envy, which displayed itself on various occasions during our intercourse with them. If we had made any presents in one hut, the inmates of the next would not fail to tell us of it, accompanying their remarks with some satirical observation, too unequivocally expressed to be mistaken, and generally by some stroke of irony * directed against the favoured person. If any individual with whom we had been intimate happened to be implicated in a theft, the circumstance became a subject of satisfaction too manifest to be repressed, and we were told of it with expressions of the most triumphant exultation on every occasion. It was indeed curious, though ridiculous, to observe that, even among these simple people, and in this obscure corner of the globe, that little gossip and scandal so commonly practised in small societies among us were very frequently displayed. This was especially the case with the women, of whom it was not uncommon to see a group sitting in a hut for hours together, each relating her *quota* of information, now and then mimicking the persons of whom they spoke, and interlarding their stories with jokes evidently at the expense of their absent neighbours, though to their own infinite amusement.

In extenuation, however, of these faults, it must be allowed that we were ourselves the exciting cause which called them into action, and without which they would be comparatively of rare occurrence among them. Like every other child of Adam, they undoubtedly possess their share of the seeds of these human frailties; but even in this respect they need not shrink from a comparison with ourselves, for who among us can venture to assure himself that, if exposed to similar temptations, he would not be found wanting?

To another failing, to which they are addicted, the same excuse will not so forcibly apply; as in this respect our acquaintance with them naturally furnished an opportunity for the practice of a virtue, rather than for the development of its opposite vice. I have already, in the course of the foregoing Narrative, hinted at the want of gratitude evinced by these people in

* Crantz, I. 170.

their transactions with us. Among themselves, almost the only case in which this sentiment can have any field for exertion, is in the conduct of children towards their parents, and in this respect, as I shall presently have occasion to notice, their gratitude is by no means conspicuous. Any thing like a free gift is very little if at all known among them. If A gives B a part of his seal to-day, the latter soon returns an equal quantity when he is the successful fisherman. Uncertain as their mode of living is, and dependant as they are upon each other's exertions, this custom is the evident and unquestionable interest of all. The regulation does credit to their wisdom, but has nothing to do with their generosity. This being the case, it might be supposed that our numerous presents, for which no return was asked, would have excited in them something like thankfulness combined with admiration; but this was so little the case, that the *coyenna* (thanks) which did now and then escape them, expressed much less than even the most common-place "thank ye" of civilized society. Some exceptions, for they were only exceptions and rare ones to this rule, have been mentioned as they occurred; but in general, however considerable the benefit conferred, it was forgotten in a day; and this forgetfulness was not unfrequently aggravated by their giving out that their benefactor had been so shabby as to make them no present at all. Even those individuals who, either from good behaviour or superior intelligence, had been most noticed by us, and particularly such as had slept on board the ships, and whether in health or sickness had received the most friendly treatment from every body, were in general just as indifferent as the rest; and I do not believe that any one amongst them would have gone half a mile out of his road, or have sacrificed the most trivial self-gratification to have served us. Though the riches lay on our side, they possessed abundant means of making some nominal return which, for the sake of the principle that prompted it, would of course have been gratifying to us. Okotook and Iligliuk, whom I had most loaded with presents, and who had never offered me a single free gift in return, put into my hand, at the time of their first removal from Winter-Island, a dirty crooked model of a spear, so shabbily constructed that it had probably been already refused as an article of barter by many of the ship's company. On my accepting this, from an unwillingness to affront them, they were uneasy and dissatisfied till I had given them something in return, though their hands were full of the presents which I had just made them. Selfishness is in fact almost without exception their universal characteristic, and

the main-spring of all their actions, and that too of a kind the most direct and unamiable that can well be imagined.

In the few opportunities we had of putting their hospitality to the test, we had every reason to be pleased with them. Both as to food and accommodation the best they had were always at our service; and their attention, both in kind and degree, was every thing that hospitality and even good breeding could dictate. The kindly offices of drying and mending our clothes, cooking our provision and thawing snow for our drink, were performed by the women with an obliging cheerfulness which we shall not easily forget, and which commanded its due share of our admiration and esteem. While thus their guest, I have passed an evening not only with comfort, but with extreme gratification; for with the women working and singing, their husbands quietly mending their lines, the children playing before the door, and the pot boiling over the blaze of a cheerful lamp, one might well forget for the time that an Esquimaux hut was the scene of this domestic comfort and tranquillity; and I can safely affirm with Cartwright* that, while thus lodged beneath their roof, I know no people whom I would more confidently trust as respects either my person or my property, than the Esquimaux. It is painful, and may perhaps be considered invidious after this, to inquire how far their hospitality would in all probability be extended if interest were wholly separated from its practice, and a stranger were destitute and unlikely soon to repay them. But truth obliges me to confess that, from the extreme selfishness of their general conduct, as well as from their behaviour in some instances to the destitute of their own tribe, I should be sorry to lie under the necessity of thus drawing very largely on their bounty.

The estimation in which women are held among these people is, I think, somewhat greater than is usual in savage life. In their general employments they are by no means the drudges that the wives of the Greenlanders† are said to be; being occupied only in those cares which may properly be called domestic, and as such are considered the peculiar business of the women among the lower classes in civilized society. The wife of one of these people, for instance, makes and attends the fire, cooks the victuals, looks after the children, and is sempstress to her whole family; while her husband is labouring abroad for their subsistence. In this respect it is not

* Cartwright's *Labrador*, III. 232. † Crantz, I. 164, 165.

even necessary to except their task of cutting up the small seals, which is in truth one of the greatest luxuries and privileges they enjoy; and even if it were esteemed a labour, it could scarcely be considered equivalent to that of the women in many of our own fishing-towns, where the men's business is at an end the moment the boat touches the beach. The most laborious of their tasks occurs perhaps in making their various journeys, when all their goods and chattels are to be removed at once, and when each individual must undoubtedly perform a full share of the general labour. The women are however good walkers and not easily fatigued; for we have several times known a young woman of two and twenty, with a child in her hood, walk twelve miles to the ships and back again the same day, for the sake of a little bread-dust and a tin canister. When stationary in the winter, they have really almost a sinecure of it, sitting quietly in their huts, and having little or no employment for the greater part of the day. In short, there are few, if any people, in this state of society among whom the women are so well off. They always sit upon the beds with their legs doubled under them*, and are uneasy in the posture usual with us. The men sometimes sit as we do, but more generally with their legs crossed before them.

The women do not appear to be in general very prolific. Illumea indeed had borne seven children, but no second instance of an equal number in one family afterwards came to our knowledge; three or four is about the usual number. They are, according to their own account, in the habit of suckling their children to the age of three years; but we have seen a child of five occasionally at the breast, though they are dismissed from the mother's hood at about the former age. The time of weaning them must of course in some instances depend on the mother's again becoming pregnant, and if this succeeds quickly it must, as Crantz relates of the Greenlanders†, go hard with one of the infants. Nature, however, seems to be kind to them in this respect, for we did not witness one instance, nor hear of any, in which a woman was put to this inconvenience and distress. It is not uncommon to see one woman suckling the child of another, while the latter happens to be employed in her other domestic occupations. They are in the habit also of feeding their younger children from their own mouths, softening the food by mastication, and then turning their heads round so that the infant in the

* Crantz, I. 140. † *Ibid.* I. 162.

hood may put its lips to theirs. The chill is taken from water for them in the same manner, and some fathers are very fond of taking their children on their knees and thus feeding them. The women are more desirous of having sons than daughters, as on the former must principally depend their support in old age.

Twelve of the men had each two wives, and some of the younger ones had also two betrothed; two instances occurred of the father and son being married to sisters. The custom of betrothing children in their infancy is commonly practised here, in which respect these people differ from the natives of Greenland, where it is comparatively rare*. A daughter of Arnaneelia, between two and three years old, had long been thus contracted to Okotook's son, a hero of six or seven, and the latter used to run about the hut calling his intended by the familiar appellation of *Nŏŏllē-ă* (wife), to the great amusement of the parents. When a man has two wives there is generally a difference of five or six years in their ages. The senior takes her station next the principal fire, which comes entirely under her management; and she is certainly considered in some respects superior to the other, though they usually live together in the utmost harmony. The men sometimes repudiate their wives without ceremony, in case of real or supposed bad behaviour as in Greenland†, but this does not often occur. There was a considerable disparity of age between many of the men and their wives, the husband being sometimes the oldest by twenty years or more, and this also when he had never married any former wife. We knew no instance in which the number of a man's wives exceeded two, and indeed we had every reason to believe that the practice is never admitted among them. We met with a singular instance of two men having exchanged wives, in consequence merely of one of the latter being pregnant at the time when her husband was about to undertake a long journey.

The authority of the husband seems to be sufficiently absolute, depending nevertheless in great measure on the dispositions of the respective parties. Iligliuk was one of those women who seem formed to manage their husbands; and we one day saw her take Okotook to task in a very masterly style, for having bartered away a good jacket for an old useless pistol, without powder or shot. He attempted at first to bluster in his turn, and with most women

* Crantz, I. 159. † *Ibid.* 160.

would probably have gained his point. But with Iligliuk this would not do; she saw at once the absurdity of his bargain, and insisted on his immediately cancelling it, which was accordingly done and no more said about it. In general indeed the husband maintains his authority, and in several instances of supposed bad behaviour in a wife, we saw obedience enforced in a pretty summary manner. It is very rare, however, to see them proceed to this extremity; and the utmost extent of a husband's want of tenderness towards his wife consists in general in making her walk or lead the dogs, while he takes his own seat in the sledge and rides in comfort. Widows, as might be expected, are not so well off as those whose husbands are living, and this difference is especially apparent in their clothes which are usually very dirty, thin, and ragged; when indeed they happen to have no near relatives their fate, as we have already seen, is still worse than this.

I fear we cannot give a very favourable account of the chastity of the women, nor of the delicacy of their husbands in this respect. As for the latter, it was not uncommon for them to offer their wives as freely for sale as a knife or a jacket. Some of the young men informed us that, when two of them were absent together on a sealing excursion, they often exchanged wives for the time, as a matter of friendly convenience; and indeed, without mentioning any other instances of this nature, it may safely be affirmed, that in no country is prostitution carried to greater lengths than among these people. The behaviour of most of the women, when their husbands were absent from the huts, plainly evinced their indifference towards them, and their utter disregard of connubial fidelity. The departure of the men was usually the signal for throwing aside restraint, which was invariably resumed on their return. For this event they take care to be prepared by the report of the children, one of whom is usually posted on the outside for the purpose of giving due notice.

The affection of parents for their children was frequently displayed by these people, not only in the mere passive indulgence, and abstinence from corporal punishment, for which Esquimaux have before been remarked, but by a thousand playful endearments also, such as parents and nurses practise in our own country. Nothing indeed can well exceed the kindness with which they treat their children; and this trait in their character deserves to be the more insisted on, because it is in reality the only very amiable one which they possess. It must be confessed indeed, that the gentleness and docility of the children are such as to occasion their parents little trouble, and

to render severity towards them quite unnecessary. Even from their earliest infancy, they possess that quiet disposition, gentleness of demeanour, and uncommon evenness of temper, for which in more mature age they are for the most part distinguished. Disobedience is scarcely ever known, a word or even a look from a parent is enough; and I never saw a single instance of that frowardness and disposition to mischief, which, with our youth, so often requires the whole attention of a parent to watch over and to correct. They never cry from trifling accidents, and sometimes not even from very severe hurts, at which an English child would sob for an hour. It is indeed astonishing to see the indifference with which, even as tender infants, they bear the numerous blows they accidentally receive, when carried at their mothers' backs.

They are just as fond of play as any other young people and of the same kind; only that while an English child draws a cart of wood, an Esquimaux of the same age has a sledge of whalebone; and for the superb baby-house of the former, the latter builds a miniature hut of snow, and begs a lighted wick from her mother's lamp to illuminate the little dwelling. Their parents make for them, as dolls, little figures of men and women, habited in the true Esquimaux costume, as well as a variety of other toys, many of them having some reference to their future occupations in life, such as canoes, spears, and bows and arrows. The drum or tambourine mentioned by Crantz * is common among them, and used not only by the children, but by the grown-up people at some of their games. They sometimes serrate the edges of two strips of whalebone and whirl them round their heads, just as boys do in England to make the same peculiar humming sound. They will dispose one piece of wood on another, as an axis, in such a manner that the wind turns it round like the arms of a wind-mill; and so of many other toys of the same simple kind. These are the distinct property of the children, who will sometimes sell them while their parents look on, without interfering or expecting to be consulted.

When not more than eight years old, the boys are taken by their fathers on their sealing excursions, where they begin to learn their future business; and even at that early age, they are occasionally intrusted to bring home a sledge and dogs from a distance of several miles over the ice. At the age of eleven we see a boy with his water-tight boots and mocassins, a spear in his hand,

* Crantz, I. 176.

[illegible]

[illegible] accidentally receive [illegible] backs.

They are [illegible] as fond of play as any other young people [illegible] kind; only that while an English child draws a cart of wood [illegible] of the same age has a sledge of whalebone; and for the superb [illegible] of the former, the latter builds a miniature hut of snow, and [illegible] with from her mother's lamp to illuminate the little dwelling [illegible] make for them as dolls, little figures of men and women, habited [illegible] [illegible] a variety of other toys, many of [illegible] [illegible] as [illegible]

[illegible] of wood on [illegible] it could like the [illegible] same [illegible] head. [illegible] sometimes sell them [illegible] parents [illegible] without [illegible]

[illegible] are taken by [illegible] their [illegible] a distance of [illegible] over the [illegible] with his water-tight boots and [illegible]

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and a small coil of line at his back, accompanying the men to the fishery, under every circumstance; and from this time his services daily increase in value to the whole tribe. On our first intercourse with them we supposed, that they would not unwillingly have parted with their children, in consideration of some valuable present, but in this we afterwards found that we were much mistaken. Happening one day to call myself Tooloonk's *attata* (father,) and pretend that he was to remain with me on board the ship, I received from the old man, his father, no other answer than what seemed to be very strongly and even satirically implied, by his taking one of our gentlemen by the arm and calling him *his* son; thus intimating that the adoption which he proposed was as feasible and as natural as my own.

The custom of adoption is carried to very great lengths among these people, and served to explain to us several apparent inconsistencies with respect to their relationships. The adoption of a child in civilized countries has usually for its motive either a tenderness for the object itself, or some affection or pity for its deceased, helpless, or unknown parents. Among the Esquimaux, however, with whom the two first of these causes would prove but little excitement, and the last can have no place, the custom owes its origin entirely to the obvious advantage of thus providing for a man's own subsistence in advanced life; and it is consequently confined almost without exception to the adoption of *sons*, who can alone contribute materially to the support of an aged and infirm parent. When a man adopts the son of another as his own, he is said to "*tego*," or take him; and at whatever age this is done, (though it generally happens in infancy,) the child then lives with his new parents, calls them father and mother, is sometimes even ignorant of any such transfer having been made, especially if his real parents should be dead; and whether he knows it or not, is not always willing to acknowledge any but those with whom he lives. Without imputing much to the natural affection of these people for their offspring, which like their other passions is certainly not remarkable for its strength, there would seem, on the score of disinterestedness, a degree of consideration in a man's thus giving his son to another, which is scarcely compatible with the general selfishness of the Esquimaux character; but there is reason to suppose that the expediency of this measure is sometimes suggested by a deficiency of the mother's milk, and not unfrequently perhaps by the premature death of the real parent. The agreement seems to be

always made between the fathers, and to differ in no respect from the transfer of other property, except that none can equal in value the property thus disposed of. The good sense, good fortune, or extensive claims of some individuals were particularly apparent in this way, from the number of sons they had adopted. Toolemak, deriving perhaps some advantage from his qualifications as Angetkook, had taken care to negotiate for the adoption of some of the finest male children of the tribe; a provision which now appeared the more necessary from his having lost four children of his own, besides Noogloo, who was one of his *tego'd* sons. In one of the two instances that came to our knowledge of the adoption of a female child, both its own parents were still living, nor could we ascertain the motive for this deviation from the more general custom.

In their behaviour to old people, whose age or infirmities render them useless and therefore burdensome to the community, the Esquimaux betray a degree of insensibility bordering on inhumanity, and ill-repaying the kindness of an indulgent parent. The old man Hikkeiera, who was very ill during the winter, used to lie day after day little regarded by his wife, son, daughter, and other relatives, except that his wretched state constituted, as they well knew, a forcible claim upon our charity; and, with this view, it was sure to excite a whine of sympathy and commiseration whenever we visited or spoke of him. When, however, a journey of ten miles was to be performed over the ice, they left him to find his way with a stick in the best manner he could, while the young and robust ones were many of them drawn on sledges. There is indeed no doubt that, had their necessities or mode of life required a longer journey than he could thus have accomplished, they would have pushed on like the Indians, and left a fellow-creature to perish. It was certainly considered incumbent on his son to support him, and he was fortunate in that son's being a very good man; but a few more such journeys to a man of seventy would not impose this incumbrance upon him much longer. Illumea, the mother of several grown-up children, lived also in the same apartment with her youngest son, and in the same hut with her other relations. She did not however interfere, as in Greenland *, with the management of her son's domestic concerns, though his wife was half an idiot. She was always badly clothed, and even in the midst of plenty not particularly well-fed, receiving every thing more as an act of charity than otherwise; and

* Crantz, I. 164.

she will probably be less and less attended to, in proportion as she stands more in need of assistance.

The different families appear always to live on good terms with each other, though each preserves its own habitation and property as distinct and independent as any housekeeper in England. The persons living under one roof, who are generally closely related, maintain a degree of harmony among themselves which is scarcely ever disturbed. The more turbulent passions which, when unrestrained by religious principle or unchecked by the dread of human punishment, usually create so much havoc in the world, seem to be very seldom excited in the breasts of these people, which renders personal violence or immoderate anger extremely rare among them; and one may sit in a hut for a whole day, and never witness an angry word or look except in driving out the dogs. If they take an offence, it is more common for them to shew it by the more quiet method of sulkiness, and this they now and then tried as a matter of experiment with us. Okotook, who was often in this humour, once displayed it to some of our gentlemen in his own hut, by turning his back and frequently repeating the expression "good-bye," as a broad hint to them to go away. Toolooak was also a little given to this mood, but never retained it long, and there was no malice mixed with his displeasure. One evening that he slept on board the Fury, he either offended Mr. Skeoch, or thought that he had done so, by this kind of humour; at all events they parted for the night without any formal reconciliation. The next morning Mr. Skeoch was awakened at an unusually early hour, by Toolooak's entering his cabin and taking hold of his hand to shake it, by way of making up the supposed quarrel. On a disposition thus naturally charitable, what might not Christian education and Christian principles effect! Where a joke is evidently intended, I never knew people more ready to join in it than these are. If ridiculed for any particularity of manner, figure, or countenance, they are sure not to be long behind-hand in returning it, and that very often with interest. If we were the aggressors in this way, some ironical observation respecting the *Kabloonas* was frequently the consequence; and no small portion of wit as well as irony was at times mixed with their raillery.

In point of intellect as well as disposition great variety was of course perceptible among the different individuals of this tribe; but few of them were wanting in that respect. Some indeed possessed a degree of natural quickness and intelligence which perhaps could hardly be surpassed in the

natives of any country. Iligliuk, though one of the least amiable, was particularly thus gifted. When she really wished to develop our meaning, she would desire her husband and all the rest to hold their tongues, and would generally make it out while they were puzzling their heads to no purpose. In returning her answers the very expression of her countenance, though one of the plainest among them, was almost of itself sufficient to convey her meaning; and there was, in these cases, a peculiar decisive energy in her manner of speaking which was extremely interesting. This woman would indeed have easily learned any thing to which she chose to direct her attention; and had her lot been cast in a civilized country instead of this dreary region, which serves alike to "freeze the genial current of the soul" and body, she would probably have been a very clever person. For want of a sufficient object, however, neither she nor any of her companions ever learned a dozen words of English, except our names, with which it was their interest to be familiar, and which, long before we left them any child could repeat, though in their own style of pronunciation.

Besides the natural authority of parents and husbands, these people appear to admit no kind of superiority among one another, except a certain degree of superstitious reverence for their *angetkooks*, and their tacitly following the counsel or steps of the most active seal-catcher on their hunting excursions. The word *nallegak*, used in Greenland to express "master," and "lord" in the Esquimaux translations of the Scriptures, they were not acquainted with. One of the young men at Winter Island appeared to be considered somewhat in the light of a servant to Okotook, living with the latter and quietly allowing him to take possession of all the most valuable presents which he received from us. Being a sociable people, they unite in considerable numbers to form a settlement for the winter; but on the return of spring they again separate into several parties, each appearing to choose his own route without regard to that of the rest, but all making their arrangements without the slightest disagreement or difference of opinion that we could ever discover. In all their movements they seem to be actuated by one simultaneous feeling that is truly admirable.

Superior as our arts, contrivances, and materials must unquestionably have appeared to them, and eager as they were to profit by this superiority, yet, contradictory as it may seem, they certainly looked upon us in many respects with profound contempt; maintaining that idea of self-sufficiency which has

induced them, in common with the rest of their nation, to call themselves, by way of distinction *Innuee*, or mankind. One day for instance, in securing some of the geer of a sledge, Okotook broke a part of it composed of a piece of our white line, and I shall never forget the contemptuous sneer with which he muttered in soliloquy the word "Kabloona!" in token of the inferiority of our materials to his own. It is happy, perhaps, when people possessing so few of the good things of this life can be thus contented with the little allotted them.

The men, though low in stature, are not wanting in muscular strength in proportion to their size, or in activity and hardiness. They are good and even quick walkers, and occasionally bear much bodily fatigue, wet and cold, without appearing to suffer by it, much less to complain of it. Whatever labour they have gone through and with whatever success in procuring game, no individual ever seems to arrogate to himself the credit of having done more than his neighbour for the general good. Nor do I conceive there is reason to doubt their personal courage, though they are too good-natured often to excite others to put that quality to the test. It is true they will recoil with horror at the tale of an Indian massacre, and probably cannot conceive what should induce one set of men deliberately and without provocation to murder another. War is not their trade; ferocity forms no part of the disposition of the Esquimaux. Whatever manly qualities they possess are exercised in a different way, and put to a far more worthy purpose. They are fishermen and not warriors; but I cannot call that man a coward who, at the age of one and twenty, will attack a polar bear single-handed, or fearlessly commit himself to floating masses of ice which the next puff of wind may drift for ever from the shore.

If in short they are deficient in some of the higher virtues, as they are called, of savage life, they are certainly free also from some of its blackest vices; and their want of brilliant q alities is fully compensated by those which, while they dazzle less, do more service to society and more honour to human nature. If, for instance, they have not the magnanimity which would enable them to endure without a murmur the most excruciating torture, neither have they the ferocious cruelty that incites a man to inflict that torture on a helpless fellow-creature. If their gratitude for favours be not lively nor lasting, neither is their resentment of injuries implacable nor their hatred deadly. I do not say there are not exceptions to this rule, though we have never witnessed any, but it is assuredly not their general character.

When viewed more nearly in their domestic relations, the comparison will I believe, be still more in their favour. It is here as a social being, as a husband and the father of a family, promoting within his own little sphere the benefit of that community in which Providence has cast his lot, that the moral character of a savage is truly to be sought; and who can turn without horror from the Esquimaux, peaceably seated after a day of honest labour with his wife and children in their snow-built hut, to the self-willed and vindictive Indian, wantonly plunging his dagger into the bosom of the helpless woman, whom nature bids him cherish and protect!

Of the few arts possessed by this simple people some account has already been given in the description of their various implements. As mechanics they have little to boast, when compared with other savages lying under equal disadvantages as to scantiness of tools and materials. As carpenters they can scarf two pieces of wood together, secure them with pins of whalebone or ivory, fashion the timbers of a canoe, shoe a paddle, and rivet a scrap of iron into a spear or arrow head. Their principal tool is the knife (panna,) and considering the excellence of a great number which they possessed previous to our intercourse with them, the work they do is remarkably coarse and clumsy. Their very manner of holding and handling a knife is the most awkward that can be imagined. For the purpose of boring holes they have a drill and bow so exactly like our own that they need no further description, except that the end of the drill-handle, which our artists place against their breasts, is rested by these people against a piece of wood or bone held in their mouths, and having a cavity fitted to receive it. With the use of the saw they were well acquainted, but had nothing of this kind in their possession better than a notched piece of iron. One or two small European axes were lashed to handles in a contrary direction to ours, that is, to be used like an adze (3,) a form which, according to the observation of a traveller* well qualified to judge, savages in general prefer. It was said that these people steamed or boiled wood, in order to bend it for fashioning the timbers of their canoes. As fishermen or seamen they can put on a woolding or seizing with sufficient strength and security, and are acquainted with some of the most simple and serviceable knots in use among us. In all the arts, however, practised by the men it is observable that the ingenuity lies in the principle, not in the execution. The experience of ages has led them to adopt the

* Ledyard. *Proceedings of the African Association.* Vol. i. p. 30.

most efficacious methods, but their practice as handicrafts has gone no further than absolute necessity requires; they bestow little labour upon neatness or ornament.

In some of the few arts practised by the women there is much more dexterity displayed, particularly in that important branch of a housewife's business, sewing, which even with their own clumsy needles of bone (11.) they perform with extraordinary neatness. They had however several steel needles of a three-cornered shape, which they kept in a very convenient case (25.) consisting of a strip of leather passed through a hollow bone and having its ends remaining out, so that the needles which are stuck into it may be drawn in and out at pleasure. These cases were sometimes ornamented by cutting; and several thimbles of leather, one of which in sewing is worn on the first finger, are usually attached to it, together with a bunch of narrow spoons and other small articles liable to be lost. The thread they use is the sinew of the rein-deer (*tooktoo ĕwăllōō*,) or, when they cannot procure this, the swallow-pipe of the *neitiek*. This may be split into threads of different sizes, according to the nature of their work, and is certainly a most admirable material. This, together with any other articles of a similar kind, they keep in little bags, which are sometimes made of the skin of birds' feet, disposed with the claws downwards in a very neat and tasteful manner. (23.) In sewing, the point of the needle is entered and drawn through in a direction towards the body, and not from it or towards one side as with our sempstresses. They sew the deer-skins with a "round seam," and the water-tight boots and shoes are "stitched." The latter is performed in a very adroit and efficacious manner, by putting the needle only half through the substance of one part of the seal-skin, so as to leave no hole for admitting the water. In cutting out the clothes the women do it after one regular and uniform pattern, which probably descends unaltered from generation to generation. The skin of the deer's head is always made to form the *apex* of the hood, while that of the neck and shoulders comes down the back of the jacket; and so of every other part of the animal which is appropriated to its particular portion of the dress. To soften the seal-skins of which the boots, shoes, and mittens are made, the women chew them for an hour or two together, and the young girls are often seen employed in thus preparing the materials for their mothers. The covering of the canoes is a part of the women's business, in which good workmanship is especially necessary to render the whole smooth and water-tight. The skins, which are those of

the *neitiek* only, are prepared by scraping off the hair and the fleshy parts with an *ooloo*, and stretching them out tight on a frame, in which state they are left over the lamps or in the sun for several days to dry; and after this they are well chewed by the women to make them fit for working. The dressing of leather and of skins in the hair, is an art which the women have brought to no inconsiderable degree of perfection. They perform this by first cleansing the skin from as much of the fat and fleshy matter as the *ooloo* will take off, and then rubbing it hard for several hours with a blunt scraper, called *siākoŏt*, so as nearly to dry it. It is then put into a vessel containing urine and left to steep a couple of days, after which a drying completes the process. Skins dressed in the hair are however not always thus steeped; the women, instead of this, chewing them for hours together till they are quite soft and clean. Some of the leather thus dressed looked nearly as well as ours, and the hair was as firmly fixed to the pelt, but there was in this respect a very great difference, according to the art or attention of the housewife. Dyeing is an art wholly unknown to them. The women are very expert at platting, which is usually done with three threads of sinew; if greater strength is required, several of these are twisted slackly together as in the bow-strings. The quickness with which some of the women plat is really surprising; and it is well that they do so, for the quantity required for the bows alone would otherwise occupy half the year in completing it.

It may be supposed that among so cheerful a people as the Esquimaux there are many games or sports practised; indeed it was rarely that we visited their habitations without seeing some engaged in them. One of these our gentlemen saw at Winter Island, on an occasion when most of the men were absent from the huts on a sealing excursion, and in this Iligliuk was the chief performer. Being requested to amuse them in this way, she suddenly unbound her hair, platted it, tied both ends together to keep it out of her way, and then stepping out into the middle of the hut, began to make the most hideous faces that can be conceived, by drawing both lips into her mouth, poking forward her chin, squinting frightfully, occasionally shutting one eye, and moving her head from side to side as if her neck had been dislocated. This exhibition, which they call *āyŏkĭt-tāk-poke* *, and which is evidently considered an accomplishment that few of them possess in perfection, distorts every feature

* This name, as well as those of the other games I am now describing is given in the third person singular of the verb used to express the performance.

in the most horrible manner imaginable, and would, I think, put our most skilful horse-collar grinners quite out of countenance.

The next performance consists in looking steadfastly and gravely forward and repeating the words *tăbăk-tabak, kĕibō-keibo, kĕbāng-ĕ-nū-tŏ-ĕĕk, kebangenutoeek, ămātămā, amatama*, in the order in which they are here placed, but each at least four times, and always by a peculiar modulation of the voice speaking them in pairs as they are coupled above. The sound is made to proceed from the throat in a way much resembling ventriloquism, to which art it is indeed an approach. After the last *amatama* Iligliuk always pointed with her finger towards her body, and pronounced the word *angetkook*, steadily retaining her gravity for five or six seconds, and then bursting into a loud laugh, in which she was joined by all the rest. The women sometimes produce a much more guttural and unnatural sound, repeating principally the word *ĭkkĕrĕe-ikkeree*, coupling them as before, and staring in such a manner as to make their eyes appear ready to burst out of their sockets with the exertion. Two or more of them will sometimes stand up face to face, and with great quickness and regularity respond to each other, keeping such exact time that the sound appears to come from one throat instead of several. Very few of the females are possessed of this accomplishment, which is called *pitkoo-she-rāk-poke*, and it is not uncommon to see several of the younger females practising it. A third part of the game, distinguished by the word *keitĭk-poke*, consists only in falling on each knee alternately, a piece of agility which they perform with tolerable quickness, considering the bulky and awkward nature of their dress.

The last kind of individual exhibition was still performed by Iligliuk, to whom in this, as in almost every thing else, the other women tacitly acknowledged their inferiority, by quietly giving place to her on every occasion. She now once more came forward, and letting her arms hang down loosely and bending her body very much forward, shook herself with extreme violence as if her whole frame had been strongly convulsed, uttering at the same time, in a wild tone of voice, some of the unnatural sounds before-mentioned.

This being at an end, a new exhibition was commenced in which ten or twelve women took a part, and which our gentlemen compared to blind man's buff. A circle being formed, and a boy despatched to look out at the door of the hut, Iligliuk, still the principal actress, placed herself in the centre, and after making a variety of guttural noises for about half a minute, shut her eyes, and ran about till she had taken hold of one of the others, whose

business it then became to take her station in the centre, so that almost every woman in her turn occupied this post, and in her own peculiar way, either by distortion of countenance or other gestures, performed her part in the game. This continued three quarters of an hour and, from the precaution of placing a look-out who was withdrawn when it was over, as well as from some very expressive signs which need not here be mentioned, there is reason to believe that it is usually followed by certain indecencies, with which their husbands are not to be acquainted. Kaoongut was present indeed on this occasion, but his age seemed to render him a privileged person; besides which his own wife did not join in the game.

The most common amusement however, and to which their husbands made no objection, they performed at Winter Island expressly for our gratification. The females, being collected to the number of ten or twelve, stood in as large a circle as the hut would admit, with Okotook in the centre. He began by a sort of half-howling, half-singing noise, which appeared as if designed to call the attention of the women, the latter soon commencing the *Amna Aya* song hereafter described. This they continued without variety, remaining quite still while Okotook walked round within the circle; his body was rather bent forward, his eyes sometimes closed, his arms constantly moving up and down, and now and then hoarsely vociferating a word or two as if to increase the animation of the singers, who, whenever he did this, quitted the chorus and rose into the words of the song. At the end of ten minutes they all left off at once, and after one minute's interval commenced a second act precisely similar and of equal duration, Okotook continuing to invoke their muse as before. A third act, which followed this, varied only in his frequently towards the close throwing his feet up before and clapping his hands together, by which exertion he was thrown into a violent perspiration. He then retired, desiring a young man (who as we were informed was the only individual of several then present thus qualified) to take his place in the centre as master of the ceremonies, when the same antics as before were again gone through. After this description it will scarcely be necessary to remark that nothing can be poorer in its way than this tedious singing recreation, which, as well as every thing in which dancing is concerned, they express by the word *mŏmĕk-poke*. They seem, however, to take great delight in it; and even a number of the men as well as all the children crept into the hut by degrees to peep at the performance.

The Esquimaux women and children often amuse themselves with a game

not unlike our "skip-rope." This is performed by two women holding the ends of a line and whirling it regularly round and round, while a third jumps over it in the middle according to the following order. She commences by jumping twice on both feet, then alternately with the right and left, and next four times with the feet slipped one behind the other, the rope passing once round at each jump. After this she performs a circle on the ground, jumping about half-a-dozen times in the course of it, which bringing her to her original position, the same thing is repeated as often as it can be done without entangling the line. One or two of the women performed this with considerable agility and adroitness, considering the clumsiness of their boots and jackets, and seemed to pride themselves in some degree on the qualification. A second kind of this game consists in two women holding a long rope by its ends and whirling it round in such a manner, over the heads of two others standing close together near the middle of the bight, that each of these shall jump over it alternately. The art therefore, which is indeed considerable, depends more on those whirling the rope than on the jumpers, who are, however, obliged to keep exact time in order to be ready for the rope passing under their feet.

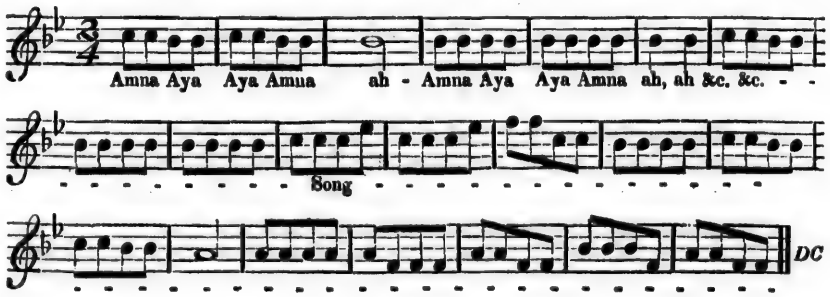
The whole of these people, but especially the women, are fond of music both vocal and instrumental. Some of them might be said to be passionately so, removing their hair from off their ears and bending their heads forward as if to catch the sounds more distinctly, whenever we amused them in this manner. Their own music is entirely vocal, unless indeed the drum or tambourine before mentioned be considered an exception.

The voices of the women are soft and feminine, and when singing with the men are pitched an octave higher than theirs. They have most of them so far good ears, that, in whatever key a song is commenced by one of them, the rest will always join in perfect unison. After singing for ten minutes the key had usually fallen a full semi-tone. Only two of them, of whom Iligluik was one, could catch the tune as pitched by an instrument; which made it difficult with most of them to complete the writing of the notes, for if they once left off they were sure to re-commence in some other key, though a flute or violin was playing at the time.

There is not in any of their songs much variety, compass, or melody. In the following specimens therefore which, in conjunction with Mr. Henderson, I wrote down from their singing, I can only promise that the notes are correctly given, and that I have done my best to put them into the time

in which they are sung. Unharmonious as they will appear to musical ears, we thought them pleasing when sung in good time by a number of female voices.

The first and much the most common of these is that in which the well known Greenland chorus, "*Amna aya,*" commences the performance, and is introduced between each verse, constituting about five-sixths of the whole song. When the words of the song are introduced, the notes rise a little for three or four bars, and then relapse again into the same hum-drum chorus as before, which to do it justice is well calculated to set the children to sleep. The words of the song seem to be as interminable as those of "Chevy Chace;" for the women will go on singing them for nearly half an hour, and then leave off one by one, not with their story but their breath exhausted.



They have a second song, varying from the preceding one very slightly in the tune, and accompanied by the same chorus, but with different words.

The third and last is the most tuneful of any of their songs. The termination, which is abrupt and fanciful, is usually accompanied by a peculiar motion of the head, and an expression of archness in the countenance which cannot be described by words.

There is only one verse to this song, and that, from its commencing with the word " pilletay," we supposed to be a begging one. Of the words of their songs in general, I cannot, from my imperfect knowledge of their language, pretend to speak very accurately. From the occasional introduction of the words " sledge, canoe, spear," and others of that kind with which we were acquainted, it is probable that their own exploits by sea and land orm the principal subjects. The last song is not so often sung as the first, which these cheerful creatures unconsciously strike up every hour in the day, and which seems to beguile the time both to themselves and their children, under almost any circumstances in which they can be placed. The men seldom sing, and perhaps consider it unmanly; for we never heard them but at our request, and even then they soon left the women to finish the ditty. Their province rather seems to be to invoke the muse of the women at the games before described.

During the season passed at Winter Island, which appears to have been a healthy one to the Esquimaux, we had little opportunity of becoming acquainted with the diseases to which they are subject. Our subsequent intercourse with a greater number of these people at Igloolik, having unfortunately afforded more frequent and fatal instances of sickness among them, I here insert Mr. Edwards's remarks on this subject.

" Exempted as these people are from a host of diseases usually ascribed to the vitiated habits of more civilized life, as well as from those equally numerous and more destructive ones engendered by the pestilential effluvia that float in the atmosphere of more favoured climes, the diversity of their maladies is, as might *à priori* be inferred, very limited. But, unfortunately, that improvidence which is so remarkable in their kindred tribes is also with them proof against the repeated lessons of bitter experience they are doomed to endure. Alternate excesses and privations mark their progress through life, and consequent misery in one or another shape is an active agent in effecting as much mischief amongst them as the diseases above alluded to produce in other countries. The mortality arising from a few diseases and wretchedness combined seems sufficient to check any thing like a progressive increase of their numbers. The great proportion of deaths to births that occurred during the period of our intercourse with them has already been noticed.

"It is doubtful in what proportion the mortality is directly occasioned by disease. Few perhaps die, in the strict sense of the term, a natural death. A married person of either sex rarely dies without leaving destitute a parent, a widow, or a helpless female infant. To be deprived of near relations is to be deprived of every thing; such unfortunates are usually abandoned to their fate and too generally perish. A widow and two or three children left under these circumstances were known to have died of inanition, from the neglect and apathy of their neighbours, who jeered at the commanders of our ships on the failure of their humane endeavours to save what the Esquimaux considered as worthless.

"Our first communication with these people at Winter Island gave us a more favourable impression of their general health than subsequent experience confirmed. There however they were not free from sickness. A catarrhal affection in the month of February became generally prevalent, from which they readily recovered after the exciting causes, intemperance and exposure to wet, had ceased to operate. A solitary instance of pleurisy also occurred, which probably might have ended fatally but for timely assistance. Our intercourse with them in the summer was more interrupted; but at our occasional meetings they were observed to be enjoying excellent health. It is probable that their certain supplies of food, and the nomade kind of life they lead in its pursuit during that season, are favourable to health. Nutrition goes on actively, and an astonishing increase of strength and fulness is acquired. Active diseases might now be looked for, but that the powers of nature are providentially exerted with effect.

"The unlimited use of stimulating animal food, on which they are from infancy fed, induces at an early age a highly plethoric state of the vascular system. The weaker over-distended vessels of the nose quickly yield to the increased impetus of the blood, and an active hermorrhage relieves the subject. As the same causes continue to be applied in excess at frequent intervals, and are followed by similar effects, a kind of vicarious hemorrhage at length becomes established by habit; superseding the intervention of art, and having no small share in maintaining a balance in the circulating system. The phenomenon is too constant to have escaped the observation of those who have visited the different Esquimaux people; a party of them has indeed rarely been seen that did not exhibit two or three instances of the fact.

"About the month of September, the approach of winter induced the Es-

quimaux at Igloolik to abandon their tents, and to retire into their more established village. The majority were here crowded into huts of a permanent construction, the materials composing the sides being stones and the bones of whales, and the roofs being formed of skins, turf, and snow; the rest of the people were lodged in snow-huts. For a while they continued very healthy; in fact as long as the temperature of the interior did not exceed the freezing point, the vapours of the atmosphere congealed upon the walls, and the air remained dry and tolerably pure; besides, their hard-frozen winter stock of walrus did not at this time tempt them to indulge their appetites immoderately. In January the temperature suffered an unseasonable rise, some successful captures of walrus also took place, and these circumstances, combined perhaps with some superstitious customs of which we were ignorant, seemed the signal for giving way to sensuality. The lamps were accumulated and the kettles more frequently replenished, and gluttony in its most disgusting form became for a while the order of the day. The Esquimaux were now seen wallowing in filth, while some surfeited lay stretched upon their skins enormously distended, and with their friends employed in rolling them about to assist the operations of oppressed nature. The roofs of their huts were no longer congealed, but dripping with wet and threatening speedy dissolution. The air was in the bone-huts damp, hot, and beyond sufferance offensive with putrid exhalations from the decomposing relics of offals, or other animal matter permitted to remain from year to year, undisturbed in these horrible sinks.

"What the consequences might have been had this state of affairs long continued it is not difficult to imagine; but fortunately for them an early and gradual dispersion took place, so that by the end of January few individuals were left in the village. The rest in divided bodies established themselves in snow-huts upon the sea-ice at some distance from the land. Before this change had been completed disorders of an inflammatory character had appeared. A few went away sick, some were unable to remove, and others taken ill upon the ice, and we heard of the death of several about this period.

"The cold snow-huts into which they had moved, though infinitely preferable to those abandoned, were ill suited to the reception of people already sick or predisposed, from the above-named causes, to sickness; many of them were also deficient in clothing to meet the rigorous weather that followed. Nevertheless after this violent excitement had passed away a com-

paratively good condition of health was enjoyed for the remainder of the winter and spring months.

"Their distance from the ships at once precluded any effectual assistance being rendered them at their huts, and their removal on board with safety; the complaints of those who died at the huts therefore did not come under observation. It appears however to have been acute inflammation of some of the abdominal viscera, very rapid in its career. In the generality the disease assumed a more insidious and sub-acute form, under which the patient lingered for a while, and was then either carried off by a diarrhœa, or slowly recovered by the powers of nature. Three or four individuals who, with some risk and trouble, were brought to the ships, we were providentially instrumental in recovering; but two others almost hopeless patients were so far exhausted before their arrival, that the endeavours used were unsuccessful, and death was probably hastened by their removal.

"Abdominal and thoracic inflammations in fact seem to be the only active diseases they have to encounter. Where a spontaneous recovery does not take place these prove fatal in a short time. The only instance among them of chronic sequels to those complaints occurred in an old man almost in dotage, whose feeble remains of life were wasting away by an ulceration of the lungs.

"No traces of the exanthematous disorders met our observation. A solitary case of epilepsy was seen in a deaf and dumb boy, who eventually died. Chronic rheumatism occurs, but it is rare and not severe. I have some doubt in saying that scurvy exists among them. A disease however having a close affinity to it was witnessed, but as in the only case that came fairly under our notice it was complicated with the symptoms of a previous debilitating disease, the diagnosis was difficult. During the patient's recovery from one of the abdominal attacks above mentioned, the gums were observed to be spongy, separated from the teeth and reverted, bleeding, and in various parts presenting the livid appearance of scorbutic gums. At the same period arose pains of an anomalous description, and of considerable severity, about the shoulders and thorax. These gradually yielded as he recovered strength, but were succeeded by other pains and tenderness of the bones and muscles of the thighs and legs. The citric acid was given to him freely from the beginning until it interfered with his appetite and bowels, when it was omitted. Topical applications were at the same time used, and afterwards continued. Signs of amendment appeared before became necessary

to withhold the vegetable acid, and it was not recurred to while he remained on board. Urged by impatience of control he left us to join his countrymen before he had well regained his strength, but we saw him on board several times afterwards in a progressive state of improvement, and though yet weak free from scorbutic symptoms. Another instance offered in a woman, whom I saw but once. Her gums were spongy and reverted, but not discoloured, her countenance sallow, lips pale, and she suffered under general debility, without local pain or rigidity of the limbs. She remained in this state for a long time, and eventually as the weather improved recovered without assistance.

"That affection of the eyes, known by the name of snow-blindness, is extremely frequent among these people. With them it scarcely ever goes beyond painful irritation, whilst among strangers inflammation is sometimes the consequence. I have not seen them use any other remedy besides the exclusion of light; but, as a preventive, a wooden eye-screen is worn, very simple in its construction, consisting of a curved piece of wood six or seven inches long, and ten or twelve lines broad, (4.) It is tied over the eyes like a pair of spectacles, being adapted to the forehead and nose, and hollowed out to favour the motion of the eye-lids. A few rays of light only are admitted through a narrow slit an inch long, cut opposite to each eye. This contrivance is more simple and quite as efficient as the more heavy one possessed by some who have been fortunate enough to acquire wood for the purpose. This is merely the former instrument, complicated by the addition of a horizontal plate projecting three or four inches from its upper rim like the peak of a jockey's cap. In Hudson's Strait the latter is common, and the former in Greenland, where also we are told they wear with advantage the simple horizontal peak alone.

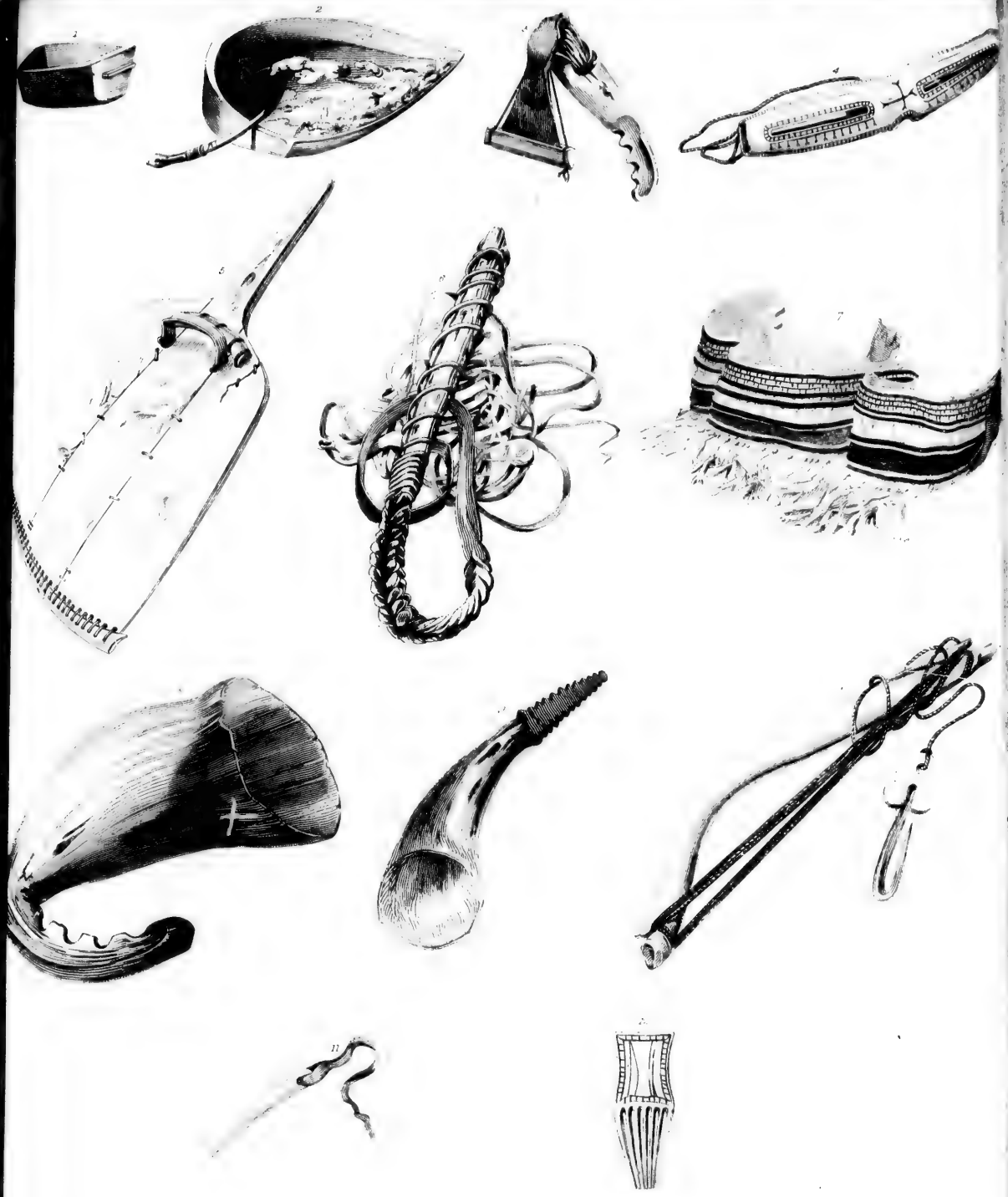
"There are upon the whole no people more destitute of curative means than these. With the exception of the hemorrhage already mentioned, which they duly appreciate, and have been observed to excite artificially to cure head-ach, they are ignorant of any rational method of procuring relief. It has not been ascertained that they use a single herb medicinally. As prophylactics they wear amulets, which are usually the teeth, bones, or hair of some animal, the more rare apparently the more valuable. In absolute sickness they depend entirely upon their Angekoks, who, they persuade themselves, have influence over some submarine deities who govern their destiny. The mummeries of these impostors, consisting in pretended consultations

with their oracles, are looked upon with confidence, and their mandates, however absurd, superstitiously submitted to. These are constituted of unmeaning ceremonies and prohibitions generally affecting the diet, both in kind and mode, but never in quantity. Seal's flesh is forbidden, for instance, in one disease, that of the walrus in the other; the heart is denied to some and the liver to others. A poor woman, on discovering that the meat she had in her mouth was a piece of fried heart instead of the liver, appeared horror-struck; and a man was in equal tribulation at having eaten, by mistake, a piece of meat cooked in his wife's kettle.

"This charlatanerie, although we may ridicule the imposition, is not, however, with them, as it is with us, a positive evil. In the total absence of the medical art, it proves generally innoxious; while in many instances it must be a source of real benefit and comfort, by buoying up the sick spirit with confident hopes of recovery, and eventually enabling the vital powers to rise superior to the malady, when, without such support, the sufferer might have sunk under its weight. It was attempted to ascertain whether climate effected any difference in animal heat between them and ourselves, by frequently marking the temperature of the mouth; but the experiments were necessarily made, as occasion offered, under such various states of vascular excitement, as to afford nothing conclusive. As it was, their temperature varied from 97° to 102°, coinciding pretty nearly with our own under similar circumstances. The pulse offered nothing singular.

"I may here remark that there is in many individuals a peculiarity about the eye amounting, in some instances, to deformity, which I have not noticed elsewhere. It consists in the inner corner of the eye being entirely covered by a duplication of the adjacent loose skin of the eye-lids and nose. This fold is lightly stretched over the edges of the eye-lids, and forms as it were a third palpebra of a crescentic shape. The aperture is in consequence rendered somewhat pyriform, the inner curvature being very obtuse, and in some individuals distorted by an angle formed where the fold crosses the border of the lower palpebra. This singularity depends upon the variable form of the orbit during immature age, and is very remarkable in childhood, less so towards adult age, and then, it would seem, frequently disappearing altogether; for the proportion in which it exists among grown-up persons bears but a small comparison with that observed among the young.

"Personal deformity from mal-conformation is uncommon; the only instance I remember being that of a young woman, whose utterance was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unintelligibly nasal, in consequence of an imperfect development of the palatine bones leaving a gap in the roof of the mouth."

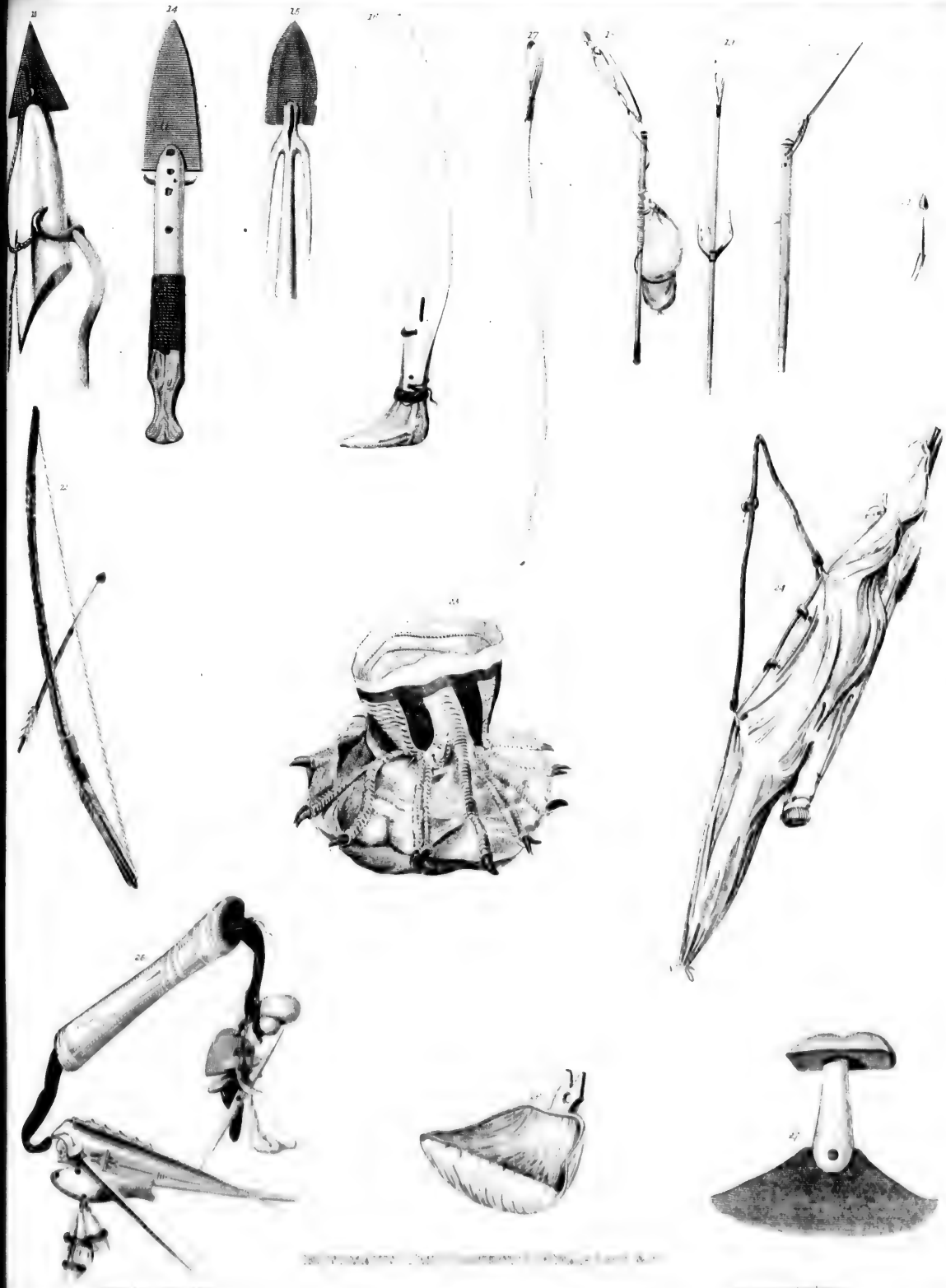
The imperfect arithmetic of these people, which resolves every number above ten into one comprehensive word, prevented our obtaining any very certain information respecting the population of this part of North America and its adjacent islands. The principal stations of these people, not visited by us, are *Akkoolee, Toonoonee-roochiuh, Peelig*, and *Toonoonek*, of whose situation I have already spoken. The first of these, which is the only one situated on the continent, lies in an indentation of considerable depth, on the shores of the Polar Sea, running in towards Repulse Bay on the opposite coast, and forming with it the large peninsula situated like a bastion at the north-east angle of America, which I have named MELVILLE PENINSULA, in honour of VISCOUNT MELVILLE, the First Lord Commissioner of the Admiralty. From what we know of the habits and disposition of the Esquimaux, which incline them always to associate in considerable numbers, we cannot well assign a smaller population than fifty souls to each of the four principal stations above-mentioned; and including these, and the inhabitants of several minor ones that were occasionally named to us, there may perhaps be three or four hundred people belonging to this tribe, with whom we have never had communication. In all their charts of this neighbourhood they also delineate a tract of land to the eastward, and somewhat to the northward, of Igloolik, where they say the *Seadlermeoo*, or strangers, live, with whom, as with the Esquimaux of Southampton Island, and all others coming under the same denomination, they have seldom or never any intercourse, either of a friendly or a hostile nature. It is more than probable that the natives of the inlet called the River Clyde, on the western coast of Baffin's Bay, are a part of the people thus designated; and indeed the whole of the numerous bays and inlets on that extensive and productive line of coast may be the residence of great numbers of Esquimaux, of whom these people possess no accurate information.

Whatever may be the abundance sometimes enjoyed by these people, and whatever the maladies occasioned by their too frequent abuse of it, it is certain that they occasionally suffer very severely from the opposite extreme. A remarkably intelligent woman informed Captain Lyon, that two years ago some Esquimaux arrived at Igloolik from a place near *Akkoolee*

bringing information that, during a very grievous famine, one party of men had fallen upon another and killed them; and that they afterwards subsisted on their flesh, while in a frozen state, but never cooked nor even thawed it. This horrible account was soon after confirmed by Toolemak, on board the Fury; and though he was evidently uneasy at our having heard the story, and conversed upon it with reluctance, yet by means of our questions he was brought to name, upon his fingers, five individuals who had been killed on this occasion. Of the fact therefore there can be doubt; but it is certain also that we ourselves scarcely regarded it with greater horror than those who related it; and the occurrence may be considered similar to those dreadful instances on record, even among civilized nations, of men devouring one another, in wrecks or boats, when rendered desperate by the sufferings of actual starvation.

The ceremony of crying, which has before been mentioned as practised after a person's death, is not however altogether confined to those melancholy occasions, but is occasionally adopted in cases of illness, and that of no very dangerous kind. The father of a sick person enters the apartment, and after looking at him for a few seconds without speaking, announces by a kind of low sob his preparation for the coming ceremony. At this signal every other individual present composes his features for crying, and the leader of the chorus then setting up a loud and piteous howl, which lasts about a minute, is joined by all the rest, who shed abundant tears during the process. So decidedly is this a matter of form, unaccompanied by any feeling of sorrow, that those who are not relatives shed just as many tears as those that are; to which may be added, that in the instances which we witnessed there was no real occasion for crying at all. It must therefore be considered in the light of a ceremony of condolence, which it would be either indecorous or unlucky to omit.

I have already in the course of the foregoing Narrative given several instances of the little care these people take in the interment of their dead, especially in the winter season; it is certain however that this arises from some superstitious notion, and particularly from the belief that any heavy weight upon the corpse would have an injurious effect upon the deceased in a future state of existence; for even in the summer, when it would be an easy matter to secure a body from the depredations of wild animals, the mode of burial is not essentially different. The corpse of a child observed



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by Lieutenant Palmer, he describes as "being laid in a regular but shallow grave, with its head to the north-east. It was decently dressed in a good deer-skin jacket, and a seal-skin prepared without the hair was carefully placed as a cover to the whole figure, and tucked in on all sides. The body was covered with flat pieces of limestone, which however were so light that a fox might easily have removed them. Near the grave were four little separate piles of stones, not more than a foot in height, in one of which we noticed a piece of red cloth and a black silk handkerchief, in a second a pair of child's boots and mittens, and in each of the others a whalebone pot. The face of the child looked unusually clean and fresh, and a few days only could have elapsed since its decease."

These Esquimaux do not appear to have any idea of the existence of One Supreme Being, nor indeed can they be said to entertain any notions on this subject, which may be dignified with the name of Religion. Their superstitions, which are numerous, have all some reference to the preternatural agency of a number of *toōrngŏw*, or spirits, with whom, on certain occasions, the *Angetkooks* pretend to hold mysterious intercourse, and who in various and distinct ways are supposed to preside over the destinies of the Esquimaux. On particular occasions of sickness or want of food the Angetkooks contrive, by means of a darkened hut, a peculiar modulation of the voice, and the uttering of a variety of unintelligible sounds, to persuade their countrymen that they are descending to the lower regions for this purpose, where they force the spirits to communicate the desired information. The superstitious reverence in which these wizards are held, and a considerable degree of ingenuity in their mode of performing their mummery, prevent the detection of the imposture, and secure implicit confidence in these absurd oracles. My friend Captain Lyon having particularly directed his attention to this part of their history during the whole of our intercourse with these people, and intending to publish his Journal which contains much interesting information of this nature, I shall not here enter more at large on the subject. Some account of their ideas respecting death, and of their belief in a future state of existence, have already been introduced in the course of the foregoing pages, in the order of those occurrences which furnished us with opportunities of observing them.

The language of the Esquimaux is so full of words, and so varied and peculiar in the formation of its sentences, that it would require a much longer acquaintance with these people, as well as far greater ability than

mine, to give a satisfactory account of its grammatical construction. In the few remarks which follow, I have taken as my guide Crantz's Account of the language of Greenland, and have endeavoured to trace a resemblance or to discover a difference between the two, as far as our knowledge enables us to ascertain. They are in fact, however, so nearly allied to each other, that it cannot but excite surprise to observe how slight a change time and distance have been able to effect in the language, as well as in the habits, of this widely-scattered nation.

One of the principal difficulties experienced by an European in acquiring a knowledge of this language, arises from the constant blending of the several words of a sentence into one, not simply by joining them loosely together, but by a regular combination of the whole, according to fixed yet infinitely varied rules. Of this peculiarity Crantz * has given an instance or two, which, though extreme cases, serve to shew the kind of difficulty which occurs in distinguishing the separate words of which such a sentence is compounded.

Several of our letters, taken according to the English mode of pronunciation, are not in use among these people. The letter *c* may at all times be very well represened by *k*; and *f*, *j*, *q*, *v*, *x*; and *z* never, I believe, occur at all. Of about eight hundred words contained in the annexed Vocabulary, I can find none beginning with the letters *b*, *d*, *g*, *l*, *r*, or *u*†. *D* occurs very seldom in the middle of a word, and *b* still more rarely; and in most cases these letters immediately precede the liquids *l* or *r*. It is worthy of remark, that the only exception to this that I have met with occurs in three of the words used in the games already described, where the *b* is followed by a vowel, as if, in the formation of these probably unmeaning words, as well as in the mode of uttering them, something out of the common way had been intended by the inventor. The letter *f* being quite unknown to them, the first attempt at the word "fife" produced "pipe," and it was not till after much practice that they could pronounce even one of the *f*'s with distinctness.

I have remarked above that *l* is not used at the beginning of a word; for though it thus occurs in the conjunction *loo*, yet as this is invariably placed at

* II. 224, 225.

† The words so spelt by Crantz are, according to the English pronunciation, more accurately expressed by *Oo*, as in Ōo-ang-ă. Nearly the same remark applies to the *v* of the Missionaries, for which, in English, *w* must be substituted.

the end of the noun or pronoun, it can hardly be considered an exception to the rule. The Esquimaux had great difficulty in pronouncing Captain Lyon's name, which it was more convenient to them to change into *Nayon.* The letter *l* occurs perhaps more frequently than any other in the middle of Esquimaux words. The letters *r* and *s* are never pronounced as with us, but in a thick guttural manner, the former approximating to the Northumbrian dialect, and the latter to the Scotch *ch*, (as in the word "loch.") The mark ˘ over either of those letters in the Vocabulary is intended to express that sound. The *r* at the beginning of a word is perhaps the least adapted of any to their organs or habits of speech, and the combination of letters in the word "spring" produced from them nothing nearer than "sh-pudding." When the letter *g* is preceded by *n*, and followed by a vowel, as in *anga* and *pingahuke*, the *g* is sounded as in the English word "hanger," and not as in "anger."

It is common for the Esquimaux to vary the pronunciation of their words at different times without altering the sense. The women, in particular, seem frequently to make such alterations as conduce to the softness of the words, as, for instance, by dropping the harsh final *k* which occurs so commonly, as *Inmialoo* for *Inmialook;* by changing it into a vowel, as *Ne-a-ko-a* for *Neakoke*, or by altering *Oo-ēe-ga* in to *Oo-ĭng-a* or *Oo-ēe-ma*, and *Hee-u-tēega* into *Hee-u-ting-a.* Other examples of the same kind occur in the Vocabulary.

The nouns substantive have three numbers, singular, dual, and plural. The dual generally terminates with a *k*, and the plural with a *t* or an *n;* to these, however, there are some exceptions among the following words, obtained by repeatedly using the words *Attowseuk* (one), *Madleroke* (two), and *Oonooktoot* (a great many) respectively.

Singular.	Dual.	Plural.
Keiyak	Kei-nia	Keinian
Igloo	Iglook	Igloot
Ang-oot	Angootik	Angootit
Pan-na	Pan-nak	Pannan
Innuke	In-nuke	Innueet
Ka-bloo-na	Kabloonak	Kabloonan
Took-too	Took-took	Tooktoot
Oo-ming-muk	Oomingmak	Oomingmei.

In the construction of a sentence the nominative case usually precedes the verb, except it be a personal pronoun, which appears always to follow the

verb, as "tamooa ooanga" (I eat), and indeed, in some instances, is so connected with it as to form a single word. The accusative case often precedes the verb, as "Omut tamooa ooanga" (I am eating heart). The adjectives which I have been able to discover are so few that they are probably in this language, as in that of Greenland, of rare occurrence. Articles, I believe, they have none. The personal pronouns are as follow, nor could we distinguish any difference of pronunciation between these and the possessive pronouns. The latter always follow the substantive to which they belong.

I, Oo-ang-a	*He*, Oma	*Ye*, Illipsee
You {Ig-weet / Il-weet	*We*, Oo-a-goot	*They*, Okkoa.

The language of the Esquimaux abounds in verbs, there being a different one for each of several expressions which, in other languages, are either comprehended under one general term, or require a number of words to convey the meaning. To the instance quoted by Crantz (II. 218.) of those used to express what we call "to fish," I may add two others; namely, the variety of words they use for throwing a spear, or for putting on their clothes, the verb being formed of the noun denoting the particular kind of spear thrown, or the article of dress put on. This copiousness renders it the more difficult to acquire a knowledge of the moods and tenses, especially when the words of a sentence are so closely blended as in this language. The following are the six persons of the present tense of the verb "to be well."

Nappa-woong-a	*I am*	*well, or in health.*
Nappa-wootik	*Thou art*	
Nappa-woke	*He is*	
Nappa-woot	*We are*	
Nappa-wootit	*Ye are*	
Nappa-wook	*They are*	

The third person singular generally terminates in *oke*, and most of the verbs in the Vocabulary are inserted in this person, which the Esquimaux more commonly gave than any other. There appear to be, as in Greenland, two imperative moods, one expressing a desire and the other a summary and positive command. This last ends in *it*, as "Eiliarit igloomoot" (Go away to the huts), and, when spoken with seriousness by a man to his wife or child, ensures immediate attention.

The only prepositions that I have noticed (if indeed parts of speech can

be so called which always follow the noun) are three; namely, *mik* (at), as "Igloomikpoke," he is at the huts; *mee* (in, upon, or, sometimes, at), as "Oomia-mee," in the ship; "Sikkoomee," upon the ice; "Amitio-mee," at Amitioke; and *moot* (to), as "Ooagna-moot," to the westward. These are always tacked on at the end of the noun, like *que* in Latin; and so is the conjunction *loo* (and), being pronounced with it, as if one word. A common interjection, expressing surprise and admiration, is *Hei!* or *Hei-yā!* but a superlative degree of astonishment, mixed with pleasure, is expressed by the words *A-tāmna-trānee!*

The Esquimaux make much use of winks and nods in conversing. The former, which are always intended to convey a negative meaning, are frequently the only reply made to a question, which a bystander might therefore suppose to be still unanswered. A nod, as with us, implies the affirmative. A peculiarity in the idiom of this language which may here be noticed, is the affirmation of a question put in the negative, in order to convey a negative reply, as "Have you not been out fishing to-day?" to which if a negative answer be intended the person says "Yes," or returns a nod, implying "I have not." I may also mention as another peculiarity in their mode of expressing themselves, a common custom of speaking of a third person, not by his own name but as "the father, husband, brother, *&c.*, of such a one," and this even when the individual so spoken of is brother to the person speaking. Thus Iligliuk would often call her brother Toolooak "the son of Ka-oong-ut." In mentioning names it is not uncommon for them to adopt a mode of pronunciation differing from the correct one, and which (if the term can at all be applied to an unwritten language,) may be called colloquial: this consists in a change of the termination, as "Toolooaghioo" for Toolooak, "Oongalaghioo" for Oong-a-luk, *&c.*, and appears equivalent to the familiar diminutives of Christian names common among us. The proper names in common use among these people are borrowed from the most familiar objects in nature, and have no reference to the qualities of the possessor, as among other savages of the North American continent. The names are common to both sexes (so at least we found them in various instances) and are usually given after some of the relatives of the parents, but only on one occasion that we knew of, after the child's own parent. That they consider the sun as feminine and the moon masculine (as, indeed, do the Greenlanders,) may be implied from the words "neiya" and "anninga," by which those objects are respectively called, but which literally mean "sister"

and "brother." But the *name* of "tatkuk," by which the moon is likewise distinguished, belonged to a female in the only instance we knew of its being in use.

These Esquimaux are no great proficients in the science of arithmetic, their numerals extending in general only to five, and then commencing again thus:

Attōw-seuk	One, or	Six.
Mādleroke, or *Ardlek*	Two ,,	Seven.
Pingahuke	Three ,,	Eight.
Sĭttamat	Four ,,	Nine.
Tēd-lēe-mă	Five ,,	Ten.

Six and seven are however sometimes expressed by *Argwēnrak* and *Argwēnrak-tōw-a*, respectively; and some of the more knowing individuals go so far as ten, thus:

Kittūklee-moot	Eight.
Mikkeelukka-moot	Nine.
Eērkit-koke	Ten.

But with these last, which have an evident reference to the fingers held up to represent them, very few were acquainted. In counting even as far as three they must use their fingers as auxiliaries, and before they arrive at seven generally make some mistake. Beyond nine they hold up both hands, and if fifteen or twenty be required they make another person do the same, but never use their toes in this way as in Greenland*. It distresses the most intelligent person among them to exceed ten in numeration, and they are always glad to get off by calling it *oonōōktoot*, which may therefore imply any number from a dozen to a million. For this reason their account of a number beyond ten, unless it be of men or dogs, whose names they remember, and which may thus be set down as they repeat them, is never to be depended on.

They reckon their days by "sleeps" (*seenik*), and their years by summers or winters, according as the event of which they speak occurred about either of those seasons. The spring they call *opēn-rak*, but like ourselves cannot very exactly define the limits of that welcome season. They began however about the latter end of March, to talk of what had happened "in the winter." They have probably some corresponding term to express the autumn,

* Crantz, II. 225.

but we had no opportunity of learning it. In one instance I heard a time described by the number of moons that had since elapsed, and with tolerable precision; but this mode of computation is not in common use, and was only resorted to from the question being put in that way. We were not aware of their making use of any other epochs, or large divisions of time, with one of which, however, our own arrival among them is not unlikely to furnish them. It is perhaps owing to their deficiency in numeration that their mode of expressing any short interval of time beyond a single day is extremely dubious and indefinite. For instance *ikpokkee-ānee* is used indifferently to express yesterday, and several days, or even weeks ago, and *al-rā-nee* any past period beyond a single year. If several years be spoken of they either express it by repeating "alranee, alranee, alranee," or more simply by the usual resource of "oonooktoot" (a great many,) and always seem teazed and perplexed by more minute inquiry.

In expressing colours the same kind of uncertainty exists, except with red, white, black, and grey. For blue and yellow the terms given by different persons, or by the same person at different times, are seldom twice alike; and the confession of "nelloo-ooanga" (I don't know) generally follows a closer inquiry. Dark blue they at once call black, and light blue or yellow, white; as to green they scarcely ever pretend to give it a name, which, little as they are accustomed to see that colour, is perhaps not much to be wondered at.

The foregoing remarks on the language of these people comprise all the certain information I have been enabled to collect on this subject, during the time of our residence with them, both at Winter Island and Igloolik. I shall close this brief sketch by the annexed vocabulary of words and sentences *, in which great care has been taken not to insert any of which the meaning is doubtful. That considerable caution is requisite in this respect repeated experience has taught us, as well on account of the uncertainty which must always attend a first communication with any people whose language is imperfectly known, as from the habit which the Esquimaux have of repeating any word you say, as if for the purpose of affirming it,

* In acquiring information of this nature, at the time of our first communication with the Esquimaux, we were much assisted by a list of words and sentences in the Greenland language, for which I am indebted to the unsolicited kindness of the Reverend C. I. Latrobe, a gentleman well known and deservedly esteemed in the Christian and literary world.

whereas their intention perhaps is only to get rid of the inquiry. It is very common also for them when asked what a thing is, to give the name of the material of which it is composed, or of the animal that furnished it, instead of the name of the article in its present state. If for instance, a stranger should shew a pair of seal-skin mittens, and desire to know their name, an Esquimaux would in all probability answer "neitiek," (seal,) or "amia," (skin,) and not mention "poo-a-look," till more closely questioned.

In the following collection of words, the mode of spelling adopted has been such as to render the pronunciation intelligible to an English person, by attending to the following examples of particular combinations of letters:—

a to be pronounced as in	father.
a terminal . .	China.
e or ee . . .	impede, feed.
ei	eider, eye.
oke	smoke.
oo	root.
ow or ou . . .	cow, foul.
uk	luck.
uke . . .	duke.
ut	cut.

It is of some importance that the stress should be laid on the right syllable, to ensure which the marks used in Latin prosody have been adopted; namely – long, and ⏑ short, the latter being usually understood where no mark is applied; the mark + as already observed, denotes a guttural pronunciation.

VOCABULARY

OF

ESQUIMAUX WORDS AND SENTENCES.

Air, or weather. Also sky, or heaven	S̊ēē-la.
In the open air	Sēēlă-mĕĕ.
Afraid	Eerk-s̊ee.
„ he is	Eerk-see-woke.
Alive, he is	Innūo-woke.
Alone, or by one's self	Ke-s̊ēē-mee.
And, or also	Loo.
Andromeda tetragona (plant)	Ikke-ū-tik, or Ik-see-ōō-tit.
Angry, he is	Erk-s̊is̊see-yāk-poke
Arm, below the elbow	Tei-yāk-a-nak.
„ above the elbow	Akkei-ātkŏă.
Arrived, or come he is	Tikkēēt-poke.
Arrow	Kākleoke.
Asbestos	Mītkŏŏ-shā.
Auk, little	Ak-palli-ār̊ioo.
Aunt	Atta.
Aurora Borealis	Arksak.
Awaken, he does	Tōōpăk-poke.
Away, or far off	Ow-ā-nee.
„ „ he is	Ow-ă-nēēt-poke.
Axe	Oōlĕĕ-mŏw.
Back of a man	Kēē-ă-tēēkă.
„ of a whale or seal	Arree-ang-a. Kool-lēēng-a.
Back-bone	Keimeg-lōō-a.
Bad, it is	Mă-mā-ĭt-poke. Mā-mă-īn-mut.
Bag, or pocket	Ik-pēriuk.
Bald, he is	Mīt-kŏ-ĕĕ-s̊eenuk. Nūyă-r̊ōō-tĕ-wŏke.
Band for women's hair	To-glēē-ga.
Bark, he does	Killo-mo-āk-poke.
Bear, a	Nen̄noo'. Nan̄noke.
Beads	Hu-nōw-yak.
Beard, or mustachios	Oŏ-mītkee.
Beat, he does	Tiglik-pākma.
Bend, it does	Ning-ōō-oke.
Belly of a man	Nēiyuk. Nēidiek.
„ of a whale, or seal	Tēēma.
Berry, a	Pā-ŏŏnă-r̊ōōtik.
Big with young, she is	S̊in̄g-ĕi-wŏke.
Bird	Ting-mēē-ya.
Birch	Oke-pēē-yak.
Bite, he does	Kā-ŏ-lōke-poke. Mikkeek-poke

Black, or dark-coloured, it is	Kēr-niuk-toke.
Bleed it does	Ā-ōō-nāk-poke. / A-ōōk-poke.
Blood	A-ōō-nak.
Blow, he does	Ṡu-blōō-ăk-toke-poke
„ it does (as a whale)	Pōō-ĕē-wŏke.
Blue, it is	Kōw-lōōk-poke.
Boatswain (bird)	Is-ṡū-nak.
Boil, it does	Kal-lāk-poke. / Ikkō-a-lāk-poke.
Bone	Heōw-nik.
Book	Titterow-yak.
Boot	Allek-tēēga. / Mitko-leega. / Kamēē-ga.
„ he puts on his	Ka-mēēg-poke.
„ ankle boots	Pinnĕē-ĭă-ĭă.
Bore, or drill, he does	Ikkōō-tŏk-pŏke.
Bow, for shooting	Pit-tēē-kee.
„ he shoots with a	Pittēēk-ṡeăk-poke.
„ for drilling	Kēi-woot.
Bow-case	Pittēēk-ṡiĕk-tăk.
Bowl of wood, like a butcher's tray	Poo-ōō-tuk.
Box,	Illē-wĕ-ăk.
Braces for children's clothes	Hwēē-tĕ-ū-tă.
Bracelet	Ṡeap-pāng-a.
Brains	Kārĕtăk.
Brass	Ka-kō-blek.
Break	Now-ĭk-poke. / Kēēk-tŏ-āk-poke.
Bread	Shē-gă-lak.
Bread-dust	Kă-nĭb-ĭoŏt.
Breast of a woman	Oō-ĕē-āg-nig.
Breast-bone	Toonēk-ŭ-ă.
Breeches	Kaklēē-ga. / Kakleek.
„ he puts on his	Kaklēēk-poke.
Brent-goose, or barnacle	Nŭr-glŭk.
Bristles	Oōmia.
Brother	Kattangōōtee anēēga (or anninga.)
Brown, it is	Kēi-yŏke-toke.
Buoy (made of an inflated seal-skin)	How-wūt-tak.
Burn, it does	Ō-ŏ-nāk-poke.
Button	Ĭchĕ-rēē-yuk.
Butterfly, a	Ţākkĕē-lĭkkĕē-tā.
Calcareous spar	Oku-rēē-yuk.
Calm, it is	Illĕē-ūng-nāk-poke.
Canoe	Kei-yāk.
„ he paddles a	Kei-yāk-tŏ-poke.
Cap, or hood	Nēi-ṡeak.
Charm, a skin strap worn as a,	Oŏ-yă-mēē-ga.
Cheek	Oōlniak. / Oo-lōō-ŭ-ga.
Chew, he does	Ang-ōō-lă-woke.
Chin	Kablōōga.
Clay-slate	Ow-wēē-wiuk.
Clench his fist, he does	Eĕr-kĕĕt-poke.
Climb, he does	Mā-yŭ-āk-poke.
Cloud	Noo-wōō-ĕ-ă.
Coal	Aggă-ē-ă.
Cold	Ik-kee.
Comb	Illa-ū-tik.
Come here	Kēi-lee. Kārĕee.
„ (more commanding)	Kĕiliarit.
„ he does	Kēi-wa.
„ down	Ka-nōōng-a.
„ or go in	Ittiek.
„ shall I ?	Ittiek-lāng-ă ?
„ out, it does (as an arrow)	Kat-tāk-poke.
Conjuror, or Sorcerer	Ang-ĕt-kook. / Annăt-kō-ŭ. / Ānnătkŭ.

Copper	Ka-nōō-yak.
Cough, he does	Ko-āktŏ-poke.
Crane (bird)	Tattēē-lĕĕ-ārŭok.
Cry, he does	Kēi-ă-woke.
Cup, or bowl of musk-ox horn	Kei-yū-tuk.
Cut, he does	Ṡōwĕ-āk-poke. Ṡōwĕ-rōke-poke. Pilliūk-tŏke-poke.
Dance, he does	Momĕk-poke.
Dark	Tak.
„ it is	Tāk-poke.
Dart for birds	Nōō-gŏŏ-ĕĕ.
Daughter	Pannēēya. Pannēē.
Dead, he is	Tŏkŏŏ-woke.
Dirt	Ippuk.
Dirty, he is	Ippŭk-poke. Oo-īn-ya.
Dive, he does	Atkă-moke. At-kāk-poke.
„ it does, as a seal into a hole	Aglŏŏk-poke.
Dog	Mikkee. Kei-meg.
Draba alpina (plant)	Nap-pōō-yat.
Dream, he does	Ṡeenik-tōōmŏwŏke.
Dress victuals, he does	Koo-lip-ṡiuk-poke.
Dress (with clothes) he does	An-nō-ăk-poke. Kap-pēēt-poke.
Drill, a	Ik-kōō-tak.
„ bow of	Kēi-woot.
„ he does	Ik-kōō-tŏk-pŏke.
Drink, he does	Immiek-moke.
Drinking-cup	Im-mōō-ṡhiuk.
Drop, it does, as water	Kōō-tŏŏ-āk-poke.
Drown, he does	Ippēē-woke.
Drum, or tambourine	Kēilia-ōw-tik.
Drunk, he is	Tŏkŏŏ-yākpoke.
Dry, it is	Pān-nŭk-poke.
Duck, king	Mīt-tiek.
Duck, eider	Am-mŏw-līgŭŏk.
Duck, long-tailed	Al-diggee-ārioo.
Dust	Oke-oke.
Ear	Hēē-ŭ-tēē-gă. Hee-u-tīng-a.
East	Nēē-yuk.
„ to the	Nēē-yŭk-mĕĕ.
Eat, he does	Tamōō-ă-woke.
Egg	Mannig. *Pl.* Mannian.
Eight	Pīng-ă-huke. Kit-tūk-lĕĕ-moot.
Eighth	Pīng-ă-hū-at.
Esquimaux	Innŭĕĕt (plur.)
„ (when strangers)	Ṡead-lēr-mĕ-ŏŏ.
Elbow	Īkkŏ-ṡēē-gă.
Ermine	Ter-rēē-ya.
European (sub.)	Kablōōna.
„ (adj.)	Kāblŏŏ-nāk-ta.
Eye	Ei-ēē-ga.
„ he has an inflamed	Īllĕĕ-ū-poke.
Eye-lash	Kei-ma-rēi-yak.
Eye-brow	Ka-blōōt-kee.
Face	Ke-nāī-rā. Ke-niak.
Fall, it does	E-ū-kă-poke. E-ŭ-kāk-poke.
„ the tide does	Tīng-ing-ŏŏ-ŏke.
Far off	Ow-ā-nĕĕ.
„ he is	Ow-ā-nēēt-poke.
Fat, he is	Ŏo-īn-nīk-tōō-woke
Father	Attāta.
Father (or mother) in-law	Ṡākkee.

Fawn, a	Nōke-wa.
Feather	Shōōlook. Plur. Shōō-lōōă.
Female, of any animal	Aŕīng-nă.
Fern	Oo-ēē-beit.
File, a	Arrēē-yak.
Finger, a	Tĭk-kiek.
„ the first	Tĭk-kēē-ĕ-răk.
„ middle	Kei-tūk-lie-rak.
„ third	Mikkēē-lie-rak.
„ little	Irkĭtkŏă.
Fire	Ikkooma.
Fish	Ekkălook. Ekkaloo.
Fish-hook	Kakliōkia.
Five	Tĕd-lĕĕ-mă.
Flesh of any animal	Nēeŕkee.
Flipper of a seal, fore	Tăllă-ŕōō-ĕĕ.
„ „ hind	Ŝĭkkŏŏ-ĕĕ.
Fœtus of a seal, or walrus	Ib-lĕĕ-ŏw.
Foggy, it is	Tūk-ŝiuk-poke.
Food	Ta-mōō-a.
Foot of man, or other animal	Itti-keik. Itti-kūt-ka. Ĭttĭ-gĕi.
Foot-print	Tōō-ma.
Forehead	Kă-ōw-ga.
Fork, a	Kap-pōō-loot.
Four	Ŝĭttă-măt.
Fox	Tĕrrĕe-ânĕĕ-âŕĭŏŏ.
Fresh (not salt)	Tĕl-ŝeuk.
Frost-bite	Kiŕ-kee.
Frost-bitten, it is	Kiŕ-kēŭt-poke.
Frozen, it is (as meat)	Kiŕ-kĕŭ-wŏke.
Full, he is	Akĕiŏ-tōke-poke.
Garters for boots	Nablōō-lĕĕ-tă.
Give	Pĭllĕtăy.
Gloves	Ādĕĕ-eidĭĕt.
Go away (very commanding)	Ēi-liarit.
„ to the huts	Eiliarit iglōō-moot.
Go	Ānnee. Āttee.
„ shall I?	Anneel-yānga?
Gone far away, he is	Ow-dlāk-poke.
Good, it or he is	Mamūk-poke. Mamūk-mut.
Grandmother	In-ŕŭ-tă.
Grass	Eē-week.
Graze, it does (as a deer)	Nĕĕrēē-lĕk-poke.
Great many	Oonōōk-toot. Oonōōk-poot.
Green	Tōōng-ook.
Grey	Kei-er-ŕă.
Grow, it does (as a plant)	Nōw-oke.
Growl he does	Kăttĕĕ-mâk-poke.
Gull, glaucous	Now-ĭdioke.
„ silvery	Now-ya.
„ Sabine	Erkĕĕt-yūggĕĕ-ăiioo.
Gums of a man	It-kēet-ka.
Gun, a	Hēē-ĕk-kōke-lĕĕ-gŭ.
Hair, human	Nu-ti-āk-ka. Nu-yāk-ka.
„ of fur	Mitko.
Hand, a	I-yūte-kă. Ādděĕ-yūt-kă.
Hare	Oo-kă-lik.
Harness for dogs	Ān-noo.
He	Oma. Oo-na.
Head	Nē-ă-kŏke. Nē-ă-kō-ă.
Hear, he does	Tō-ĉhlă-wăt.
Heart	Ōmut.

Heavy, it is	Oko-mă-it-poke.
Heel	Kim-mēē-ga.
Here	Mānee. Mēi-ya. Mōwng-a. Oō-a.
High, tall, or large, he or it is,	Ang-ĕ-woke.
„ the land is	Nōōn-ăng-ĕ-woke.
High, it is (applied to inanimate objects only	King-ēēt-poke. Poōk-tōō-woke.
High (as the sun)	Pōw-nă.
Hole, a	Poo-tōō-a.
„ the circular, in a canoe	Pā-kiut.
Hood of a jacket, or a cap	Nĕi-ŝeak. Nei-ke-ā-ga.
„ he puts on his	Nei-ŝeăk-poke.
„ he puts off his	Nei-ŝe-ĕk-poke.
Hop, he does	Nănnēē-yăk-pŏke.
Horns of rein-deer	Nāg-gĕ-ŭ.
Hot, or warm	Ōk-ko.
House-mate	Īglŏg-ă-tēēga.
How ?	Kanno ?
How many ?	Kāp-ŝee ? Kāp-ŝeĕ-nēē ?
How do you do ?	Kānnŏ-ĭk-plŝee ?
Answer always made to the above (literal sense uncertain)	Kānnŏ-ĭng-llĭă-goot.
Hummock of ice	Ma-nēē-lia.
Hungry, he is	Nēē-lik-poke. Kā-lĕk-poke.
Husband	Oo-ēē-ga. Oo-ĭng-a. Oo-ēē-ma.
Hut, or house	Īgloo.
„ „ he is at the	Igloo-mĭk-poke.
Jacket, upper	Cappee-tēgga.
Jacket, under	Attēēga. Attēē-gĕ-gă.
„ „ he puts on his	Attēē-gĕ-woke.
Ice	Ŝikkoo.
„ upon the	Ŝikkōō-mee.
Ice-berg	Picca-lōō-yak.
Indians	Eērt-kĕi-lēē.
Inlet, a	Kāng-ĕk-loo.
Instrument of bone for discovering seals under ice	Keip-kūt-tuk.
Instrument used by women for making holes	Ee-ll-lĕ-ŭ.
Intestines of any animal	Innia-look. Innia-loo.
Joint of ditto	Nāb-gōō-āng-a.
Iron	Ŝōw-ik.
Iron-stone	Kal-lōōg-nuk.
Ivory	Tōō-wă.
Just now (used for past and future, also for "wait")	Oo-it-tia.
Just so	A-meel-yă. Īt-kŏ-mēē.
Kidney	Tāk-to
Kill, he does	Tō-kōō-pŏke.
Knee	Ŝīt-kŏ-ă.
Knife, an Esquimaux man's	Pānnă.
„ other	Pillia-wow-yak.
„ a clasp	Ōkōō-tāk-toke.
„ a woman's	Oō-loo.
Knot, a, he ties	Kei-lūk-poke.
„ he unties	E-yū-nŭg-poke.
Know, I do not	Nelloo-ooanga. Nelloo-ooanga nā-ŭ.
Lamp of stone	Kōōd-lĕ-ōōk.

Lamp-trimmer (sometimes of asbestos)	Tat-ko.
Lamp-black	Pā-ŏŏ.
Land, or country (also a plant)	Nōōnă.
Lapland finch	Keřniuk-tăřioo.
Laugh, he does	Īglă-pŏke.
Lay a thing down, he does	Ē-lĕĕ-wă.
Lead (metal)	Ak-kīl-lĕ-řook.
Leather, dressed	Kee-ûk-tok.
Leg of a man, below the knee	Kan-nā-řa.
" " above ditto or thigh	Kŏke-tŭ-kak.
Leg of a quadruped, below the knee	Nĕĕ-yoŏng-ă.
Lend, he does	Atŏke-poke.
Lie	Shăg-loo.
" you tell a	Shag-loo-ik-pōōtik.
Lick, he does	Allōōk-toke.
Lick it (imper.)	Allōō-pa.
Lichen, of three kinds	Kŏ-ă-yow-tit. / Tee-rŏw-yat. / Oka-yute.
Light (not dark) it is	Kā-ŭ-mô-woke. / Ka-o-mâk-poke.
Light (not heavy) it is	Okit-tū-nak.
Lightning	Kadloome-Ikkōōma.
Lights of an animal	Akkēia-gŏĭ.
Like this, or in this manner	Immûn-nă. / Im-mŭn-nāy.
" it is	Immun-ittioke.
Lime-stone	Kakote-tûng-ŭ-ă.
Line of thong	Allek. / Āklŭnăk.
Line platted, of sinew	Pelleřa.
Lip, upper	Kâkkēō-wŭ-ā-ga.
Lip, lower	Ka-klōō-ga. / Kā-klŏŏ-ăk.
Listen, he does	Nā-lŭk-poke.
Little	Mikkee.
" he or it is	Mikkēēt-poke.
Liver of an animal	Tīng-ŭ-ă.
Long time ago	Al-řā-nee.
Look, he does	Kēi-niuk-poke.
Looking-glass	Tak-hăk-toot.
Louse	Koo-muk.
Make faces, he does	Ikko-yŭk-poke.
Male of any animal	Aūg-oot.
Mark, a	Īn-nik.
Marmot, a	Ikkiek. / Sīk-sik.
Marrow	Pāttek.
Marrow-spoon	Pattĕk-nĕŭk.
Melt, it does	Kōōssiuk-poke.
Mica	Kēi-blia-kē-ă.
Milk	Īm-mook.
Mitten	Pōō-ă-lŏŏk.
Moon, the	An-nīngă.
" her name	Tāt-kuk.
" is full	Nâk-kŏke-poke.
" is in her quarter	Kōōd-lĕ-rŏke-poke.
" shines	Kow-mal-lûk-poke
Morning	Oō-blak.
Moss	Mân-nek.
Mother	A-mâ-ma.
" (as spoken by infants)	A-nā-na.
Mountain	King-nak.
Mouse	Ow-in-yuk.
Mouth	Kan-nēē-řa.
Musk-ox	Oōmingmuk.
Nail of finger, or toe	Kookee.

Nail of ivory, for stopping the wounds in seals, &c.	Too-pōō-ta.
Name	Atka. Dual, Attik.
„ what is your?	Kēē-wit?
„ what is his?	Kee-wow̄-na?
Narwhal	Keina-lōō-a.
Neck, or Throat	Toke-lōō-ga.
Needle	Mitkote.
Needle-case	Āttĕrăk.
Nephew, or Niece	Ōyŭ-ōgă.
Nest, a bird's	Oo-blōō-it.
Net over the lamp	Īnnĕtăt.
Night	Ōo-nŏŏ-ăk.
Nine	Ṡittă-măt. / Mīkkĕĕ-lūk-kă-mŏŏt.
No	Năk-ka. / Nā-ŏ.
Negative, used with verbs	Ilia.
No more	Tug-wa. / Tēi-wah.
Nod, he does	Poong-āk-poke. / Ang̃-ĕk-poke.
North	Kan-nūng-nak.
„ to the	Kan-nūng-nă-mĕĕ.
„ the wind blows from the	Kan-nūng-năk-poke.
North-east	Akkood-lōōnăwŏŏk.
Nose	Kēi-nak. / King-āṙă.
Nostril	Pāng-a.
Now	Māng-a.
Oil, or blubber	Ō-kŭ-ă.
Old, he is	It-tōōt-koo-āk-poke.
One	At-tōw-ṡeuk.
Open the door, he does	Mak-pēk-poke.
Ornamental band for the head of Esquimaux men	Muk-kēēd-yŭ-tik.
Ornament of brass or copper, worn on the forehead by Esquimaux women	Kōw-woot.
Overset, it does	King-nōō-woke.
Owl	Ook-pēē-guak.
Paddle, a	Pa-ōō-tik.
„ a canoe, he does	Kei-yāk-tŏ-pŏke.
Pimple	Kang-ṙing-māng-a.
Pin, a	Too-poo-tōw-yak.
Plant, a	Noona.
Plat, I do	Pēllĕṙay-ōōnga.
Plover, golden	Tōōdlĕĕ-āṙioo.
Pluck off, he does	E-re-tāk-poke.
Plug, cork, or stopper (also used for islands lying in the middle of channels)	Khēmig.
Plug, or Stop up, he does	Khēmig-pa.
Pocket, or Bag	Ikpēriuk.
Poppy (*Papaver Nudicaule*)	O-ṡuke.
Pot for cooking	Oōt-kŏŏ-ṡĕĕk.
Pot-stone	Oot-koo-ṡēēk-ṡeak.
Pull, he does	Nu-hūke-poke. / Nōō-kĭt-poke.
„ one's hair, he does	Nu-yāk-tŏ-poke.
Push, he does	Nee-pāk-poke. / A̱-yōw-ŭk-poke.
Pyrites, iron	Inneuk.
Quartz, or any stone like it	Too-nōō-yak.
Rain, it does	Mak-kōōk-poke.
Raven	Tōō-lŏŏ-ăk.
Raw (as meat)	Mīk-kĕ-ŭk.
Red, it is	Ā-ŏŏ-pă-lōōk-poke.
Rib, small	Na-tāt-kŏ-ă.

Rib, large	Tōōlĕmak.
Right, that is	Ti-mūn-nă. / Ti-mūn.
Ring, for the finger	Īkkŭt-kŏmĕŏ-tārra.
Ring, it does (as metal)	Hū-ă-nūk-pă-tookpoke.
Rise, it does (as the tide)	Oo-lĭng-ŏŏ-oke.
River, or Stream	Koo.
Roll, it does	Āksea-kâ-ă-woke.
Rough, it is	Mannēēliut.
Round, it is	Aīng-mă-lō-ĭk-poke.
Rub, he does	Al-lăr-tŭk-poke.
Ruff for the neck	Nak-šee-ānga.
Run, he does	Akpa-yūke-poke.
Run, it does (water)	Koo-ōōk-poke.
„ „ „ fast	Ṡūkā-woke.
„ „ „ slowly	Ṡu-keīt-poke.
Rust, it does	Okōōk-poke.
Salt, or Salt-water, also the Sea	Tārrĕŏke.
Sand	Ṡeōkat.
Sand-piper	Ṡiggee-ârree-ârioo.
„ Swiss	Tōōlĕē-ârioo.
Saw, a	Kibloo.
„ he does	Oo-lōō-ăk-pŏke.
Saxifraga Oppositifolia (plant)	Kakeed-lăng-nut.
Scissars, a pair of	Kiblee-ŏw-tik.
Scraper, for cleaning skins	Ṡeăk-koot.
Scratch, he does	Koo-mĭk-poke.
Seal, large (Phoca Barbata)	Oguke.
„ small („ Hispida)	Neitiek.
„ middle-sized	Kairōlik.
„ young of the	Īblĕŏow.
Sealing excursion, he is gone on	Neitiek-poke. / Mâ-ŏte-poke.
Seal-hole	Āgloo.
Seven	Argwēnrak-tōwa. / Madleroke. / Tikkeemoot.
Sew, she does	Mĭk-tiek-poke. / Mĕrk-šiek-poke.
Shade for the eyes	Ittee-yāga.
Shave, he does	Oo-mi-āk-poke.
Shell of a snail	Ṡeū-tĕ-rŏŏk.
Shine, it does (as the moon)	Kow-mal-lūk-poke.
Ship, or Boat	Oomiak.
„ at, or on board the	Oōmĭāmĕĕ.
Shoe	Ittee-gĕ-gă.
Shoulder	Too-ee-ga. / Nē-gă-blō-ă.
Shrimp	Pāmĕĕ-ōō-lĕĕ.
Shut the door, he does	Ṡikkĕĕ-woke.
Sick, he is	Annee-ăk-poke.
Sigh he does	Annek-šeăk-poke.
Silver, or Tin	Īm-root.
Sinew	E-wâl-loo.
Sit down	Ingit-poot.
Sister	Kattang-ooteeNeīya.
„ in-law	Ōkŏŏ-ârrā.
Six	Argwēnrak.
Sing, he does	Imniek-poke.
Skin	Ameg. / Amia.
„ of walrus	Kā-ŏw.
„ of oguke	Kēi-šeek.
„ of whale	Mâk-tuk.
Skin-vessel, placed under a lamp	Ar-nāg-wĕ-ŭ.
Skin-vessels, small bucket-shaped	Kei-niīng-rak. / Kāt-tak.
Skins of deer, made into a blanket	Keipik.

Skip a rope, he does	Kāllĕĕ-wūk-tăk-toke Aṙnow-yāk-toke.
Sky	Keiluk. Ṡēē-la.
Sledge, a	Ka-mōō-tik.
„ he draws a	Kamook.see-ērrä-poke
Sleep, he does	Ṡēēnĭk-poke.
Slide down, it does	Ṡittŏŏ-woke.
Sling for stones	Illew.
Small	Mikkee.
Smell, he does	Nei-woke. Nei-wa.
Smoke. Also Fog	Īṡsiek.
„ it does	Īṡsiek-poke. Pe-u-ōke-poke.
Smooth	Mannēēṙa.
Snare for birds	Nēē-yak.
Sneeze, you do	Tāgĕŏ-pootik.
Snore, he does	Kamōō-ĕ-wŏke.
Snow	Appoo.
„ it does	Kan-ne-ūk-poke.
Snow-drift	Nāttĕĕ-rōō-ik.
„ there is some	Nattee-roo-ĭk-poke.
Snow-goose	Kāng-ook.
Snow-bunting	Kōpĕnnŏ-āccă-ŭ.
Son	Eeṙnīng-a. Eeṙ-nēē-ṙa.
„ she bears a	Ēeṙnĕĕ-wŏke.
Sore, it is	A-ang-mut. A-ā-poke.
Sorrel	Koīng-ŏ-lĕk.
Soup	Kāyo.
South	Ping-ūng-nak.
„ to the	Ping-ūng-nă-mĕĕ.
South-west	Oo-āgnărĭt.
Spade for snow	Poo-alle-rāy.
Spear for small seal	Oō-nak.
Spear for large seal	Āklĕĕ-ăk, or Aklēēga.
„ „ walrus and whale	Kattĕĕlik.
„ „ deer	Īppoo.
„ „ salmon	Kākkĕĕ-wĕi.
Spit, he does	Kei-se-ūk-poke.
Spittle	Nōō-ă-gă.
Spoon	Ilia-oot. Alloo.
Spirit	Tōōrngow. Toorng-ă.
Spring	Opēn-ṙă.
Square, it is	Kik-paṙrīk-poke.
Squint, he does	Nak-kōō-woke.
Stab, he does	Kappēē-woke.
Star	Oo-blōō-ṙiak.
Star-fish	Āddĕĕ-yūggĕĕ-yū-ĕ-yĕt.
Stand up	Nekko-īgliee.
Steal, he does	Tīglik-poke.
Stone	Oo-yaṙ-ṙā.
„ for sharpening a knife	Aṙ-ṙēē-yak.
Straps used by women for carrying their children	Kākeo-mŏwtik.
Strike, he does	Toke-pa.
String of a bow	No-āk-tă.
Suck at the breast, he does	Amāmă-lāk-poke. Millu-kāk-poke.
Suckle a child, she does	Amā-mŏŏk-pŏke.
Sun, the	Nēi-ya.
„ its name	Ṡūk-kĕ-nŭk.
„ rises	Nē-wĕ-woke.
„ sets	Nīp-pĕ-woke.
Summer	Ōw-yak.
„ in the	Ōw-yā-mĕĕ.
Swallow-pipe of an animal	Iggee-āng-a.
Swan	Kō-guke.
Sweat, he does	Ow-mīdia-poke.

Swim, he does	Immărŏke-poke. Nāllŏke-pŏke.
Surprised, he is	Nannĕrāk-poke.
Tall, he is	Āng-ĕ-wŏke.
Talk, he does	Okād-lŭk-poke. Okāk-poke.
Tail of a quadruped	Pāmĕĕ-yōōng-ŭ.
Tail of a whale, seal, &c.	Ṡeāk-peek.
Take, (also used for adopt)	Tēēgo.
Tattooing	Ka-kēē-na.
Tear, he does	Allĭk-poke.
Ten	Eĕrkĭt-kŏke.
Tent	Tōō-pek.
Tent-pole	Kān-na.
Thanks	Koyēnna.
That	Oo-na. Tām-na.
There	Ta-mā-nee. Ta-mei-ya.
They	Ōkkŏā. Kāt-kŏ-ă.
Thief	Tiglĭktoke.
Thimble	Tikkiek.
Thin, he is	Koo-Innĕĕ-woke. Ṡeād-poke. Ṡeād-mut.
Those	Māk-kŏ-ă.
Thread a needle, she does	Noo-wēē-woke.
Throat	Toōp-kŏŏ-ĕĕ-ĭd-yuk.
Throw a spear, he does	Akle-āk-poke.
„ a stone „	Mē-lŭ-ĕĭ-āk-poke.
Throwing-stick	Noke-shak.
Three	Ping-ă-hŭke.
Third	Ping-ă-hū-ăt.
Thumb	Koo-blōō-ga.
Thunder, it does	Kād-lŭk-poke.
Too, And, or Also	Loo.
To-day	Oo-blōō-mee.
Toe, great	Put-ōō-go.
„ second	Tĭkkēē-ĕ-rak
„ third	Kei-tuk-klierak
„ fourth	Mikkēē-lierak
„ little	Ir-kĭt-kŏ-ă.
To-morrow	Āk-kă-gŏŏ.
The day after to-morrow	Akkagoo-ōōng-ă-lee-ă-gŏŏ. Akkagoo-ōōng-a-lee-ā-nee.
Tongue	Okkāra.
Tooth	Kē-ŭ-tēēt-kă.
Touch, he does	Ak-tōke-pa.
Tickle, he does	Kōō-ĕĕ-nūggĕ-wak.
Trap, a	Pood-lut.
Tremble, he does	Pāng-ă-lĭk-poke.
Tree, a	Na-pāk-to.
Triangular, it is	Nōōlŏŏ-ārrik-poke.
Trim a lamp, she does	Tatkiūk-poke.
Turnstone (bird)	Tāllĭg-wĕĕ-ārioo.
Two	Mādlĕrŏke. Ārdlek.
Uncle	Āng-a.
Unclench his fist, he does	Isṡee-wēēt-poke.
Undress, you do	Makta-pootik. Marta-pootik.
„ he does	Mattāk-poke. Teide-ōke-poke.
Unplug, he does	Noo-shōōk-pa.
Upside down, it is	Kood-yūng-ă-woke.
Vaccinum Uliginosum (plant)	Okōw-yet.
Valley, or Low-land	Nāk-ṡeak.
Very, or Extremely	Lu-kōw-nee.

the same as the fingers.

Wait. (See "Just now")	Oo-it-tia.
Walk, he does . . .	Pe-hūke-poke.
„ „ fast . . .	Otūk-tăk-poke.
„ „ slowly . .	Pĕ-hū-ĕi-āk-poke.
Walrus	Ēi-ŭ-ĕk.
„ he is gone to kill .	Ēi-ŭ-ĕk-poke.
Warm	Ōke-kŏ.
Wart, a	Oōng-nŏŏ-ă.
Wash, he does . . .	Eermīk-poke.
Water	Īmmek.
„ in or on the . . .	Īm-mĕk-mee.
Water-fall	Kog-lŏ-nuk.
We, or Our	Ōo-ă-gŏŏt.
Weed, sea (tangle) . .	Kītkŭ-ă.
„ „ another kind .	Mīn-nŭ.
Well, he is	Nāppă-woke.
West	Oo-ăg-nuk.
„ to the	Oo-ăg-nŭ-mee. / Oo-ăg-nŭ-moot.
„ wind blows from the	Oo-ăg-nŭk-poke.
Wet, it is	Kōw-ĕĕ-ūk-poke.
Whale	Āggă-wĕk.
„ bone	Heōke-kŭk.
„ blubber, or oil . .	Ok-ŭ-ă.
What	Šū-na. / Šū-mee. / Šū-mig.
What is that? . . .	Šuna Oona?
When?	Kăkkŏgŏ? / Kăng-ă?
Where?	Nēm-moot?
„ speaking of a distant place . .	Nēm-mŏŏ-mĕĕ?
Whet a knife, he does .	Ăr-rĕ-ăk-poke.
Whine, or Cry, he does .	Kĕi-yă-wŏke.
Whip, a	Īppĕĕ-rā-ŏ-tuk.
„ he does	Īppĕĕ-rā-ĕ-ŏke-poke.
Whisper, he does . .	Īšeĕ-bĕ-yūke-poke.
Whistle, he does . . .	Oo-in-yă-tŭ-pŏke.
White, or any light colour, it is	Kow-dlōōk-poke.
Who?	Kē-nă? / Pē-nă?
Who is that? . . .	Kena Oona?
Whose?	Kē-a?
Wife	Nool-lēē-ă. / Nōōl-lĕĕ-āng-a.
Willow, flower of, used as tinder . . .	Hu-pōō-tik.
Wind	Ā-nŏ-ĕĕ.
„ blows fresh . .	Pēk-šiĕk-poke.
„ blows hard . .	Annō-klūk-poke.
Wind-pipe	Tōch-lŏŏ-a.
Window	Īg-gŭl-lăk.
Wink, he does . . .	Šikkoo-niūk-poke.
Winter	Ōkĕŏke.
Wolf	Āmăřŏke.
Wolverene?	Kablee-ăřioo.
Woman; or Female generally	Ařīng-na.
Wood	Kēi-yŭ.
„ grows	Kēi-yŭ-kāk-poke.
Woold, he does . . .	Nīm-mĕ-ūk-poke.
Wrist	Al-yōw-tĕĕ-ga. / Ādĕĕ-yōw-tĕ-gă.
Write, or Draw, he does .	Tittee-rāk-poke.
Yawn, he does . . .	Ēitĕŏw-poke.
Yellow, it is	Tōōng-ŏŏk-poke.
Yes	Ap.
Yesterday	Ik-pŏke-yuk.
„ The day before (used also for some time ago)	Īk-pŭk-kĕĕ-ă-nĕĕ.
You, (singular) . . .	Īg-weet. / Il-weet.
„ (plural)	Illīp-šee.
Young, he is	Māk-kŏke-poke.

ESQUIMAUX

NAMES OF PLACES.

Southampton Island . .	"The land of Šead-lĕr-mĕŏŏ."
Chesterfield Inlet . .	Ikkee-rĕi-šeuk.
Land to the southward of ditto .	Nōō-wook.
Wager River . . .	Oot-koo-šeēk-šă-lĭk.
Beach Point . . .	Tei-yăg-nak.
Repulse Bay, and the land about it .	Ei-wĭl-lik.
Haviland Bay . . .	Hŏw-wŭt-tăk-păt-tĕ-ŭk:
Island off ditto . . .	Oo-glēē-rŭ-ok:
Bushnan Island . . .	Ĭkkălŏŏ-lĭgŭŏk:
Vansittart Island . . .	Na-gŭke-to.
Georgina Island . . .	Ow-littĕĕ-wĕĕk
Gore Bay	Ittēē-ŭĕ-ŏŏk:
Cape Martineau, and land about it .	Noo-ōōd-ŭ-ŏk.
Lyon Inlet, and all the country about it	Mălūke-šĕ-tă.
Hoppner Inlet . . .	Tăl-lŏŏt:
Norman Creek . . .	Neeb-wā-wik.
Sherer Creek, and the land about it .	King-mĭdŭŏk.
Ross Bay	Kărĭĕăk.
Winter Island . . .	Ne-yū-ning Eit-dŭ-a
Crawford Island . . .	Too-nōōd-luk.
The Island off Cape Wilson . .	Ow-lĭttĕĕ-wĕĕk.
Barrow River . . .	Šeag-gaše-ō-wik
Coxe Islands, the largest of them .	Khē-mig.
Ormond Island . . .	Khe-mig.

Quilliam Creek . . .	Kăngĕk-lŏŏ.
The Land about Cape Matthew Smith	Khiad-lăghioo.
Bouverie Islands . . .	Oolōōkŝiarnen.
Tern Island . . .	Ŝĕ-ŭ-wŭk.
Amherst Island . . } both called .	Ŝeag-glŭr-rŭ-ŏk
Liddon Island . . }	
Cockburn Island. Also some others .	Kĕiyŭk-tărrŭŏke.
Whyte Inlet	Ewĕĕ-tă-ŏke-tŏke.
Islands off Autridge Bay . .	Appēē-tier-tŏg-leek.

THE END.

ERRATA.

Page	line	
143	8	for " difference," read " diffidence."
157	14	for " bay but; the," read " bay; but the."
177	9	for " pa r," read " pair."
232	8	omit " the."
402	8	for " this her," read " her and."
430	9	from bottom, omit one " that."
434	3	do. after " on which," insert " we."
488	20	for " late," read " lately."
492	7	from bottom, before " the," add " off."
498		note †, for " nations," read " natives."
543	7	for " orm," read " form."
544	10	from bottom, for " hermorrage," read " hemorrhage."
546		last line, between " before," and " because," insert, " it."

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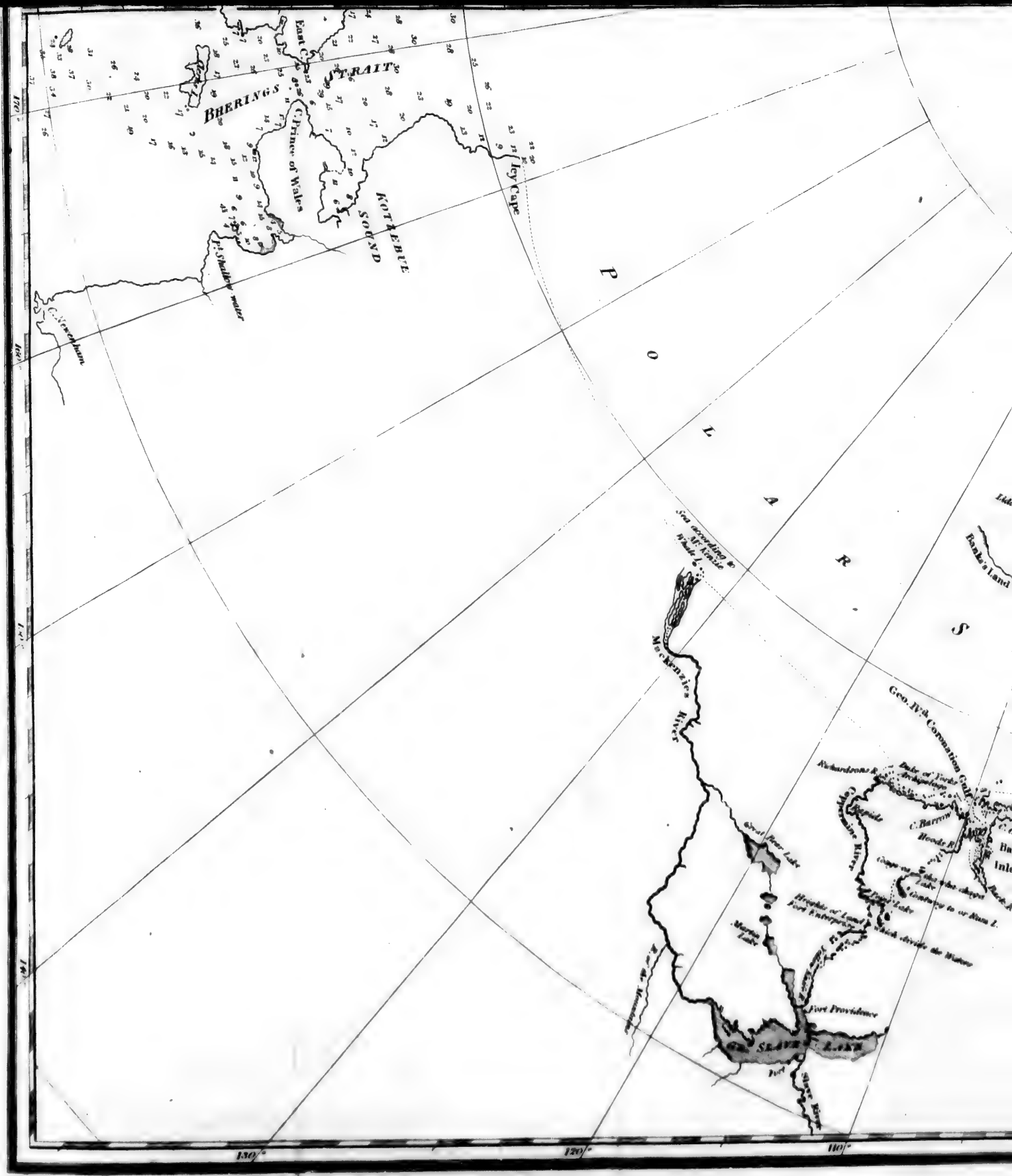
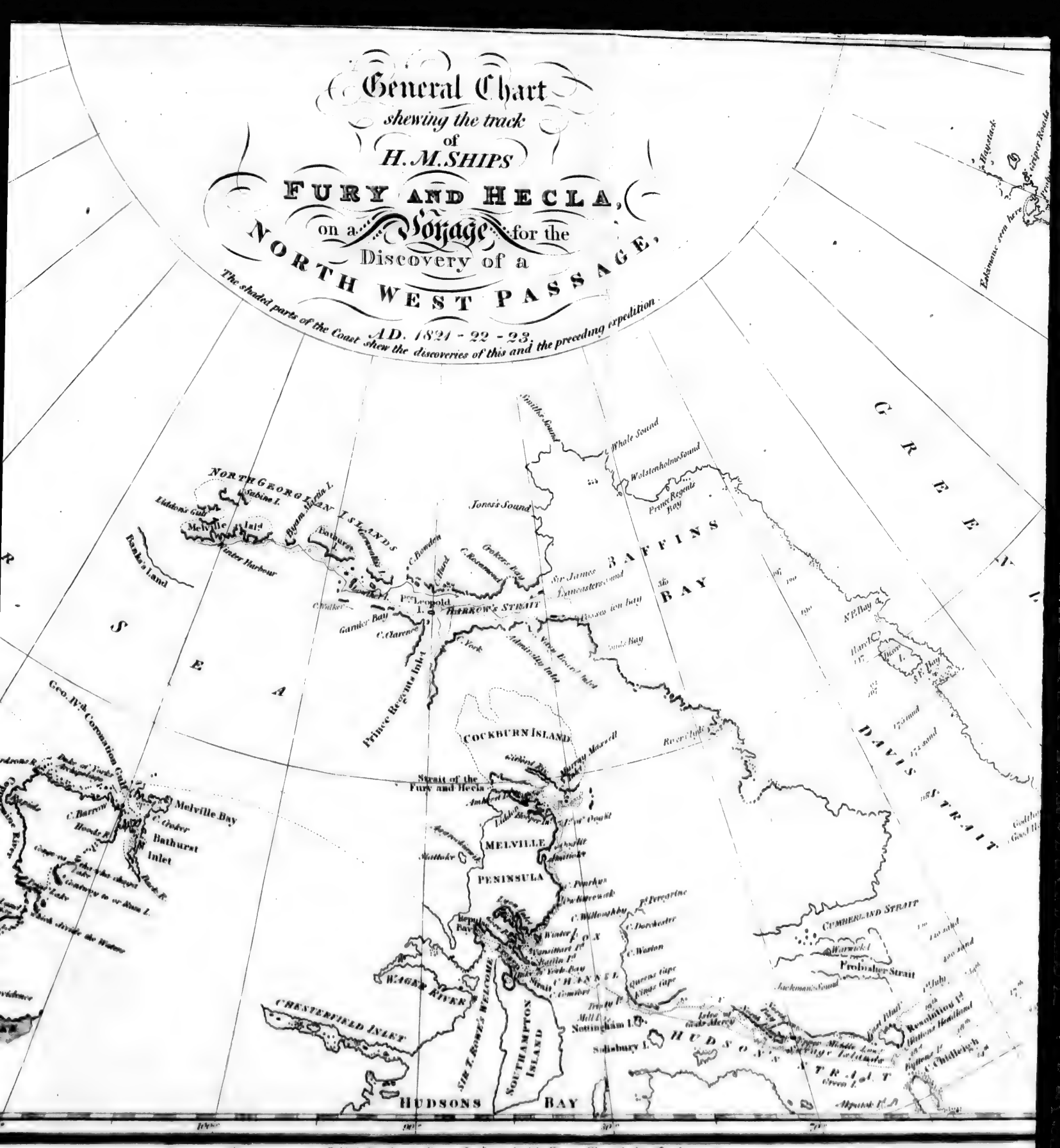
GE.
xpedition
Whale Sound
Wolstenholme Sound
BAFFINS
BAY
Ponds Bay
River Clyde
Pt. Peregrine
C. Dorchester
C. Weston
Queens Cape
Kings Cape
Isles of Gods Mercy
HUDSONS
Jackn
170°
160°
150°
140°
80°
marle Street London.



BHERINGS STRAIT
East C.
C. Prince of Wales
KOTZEBUE SOUND
Icy Cape
Pt. Shallow water
C. Newenham
P O L A R S
Sea according to Mr. Kenzie
Mackenzies River
Banks's Land
Geo. IVth Coronation Gulf
Richardsons R.
Duke of Yorks Archipelago
Rapids
Coppermine River
C. Barrow
Hoods R.
Great Bear Lake
Heights of Land Fort Enterprise
Martin Lake
Fort Providence
GR. SLAVE LAKE
Fort
Slave River
130°
120°
110°



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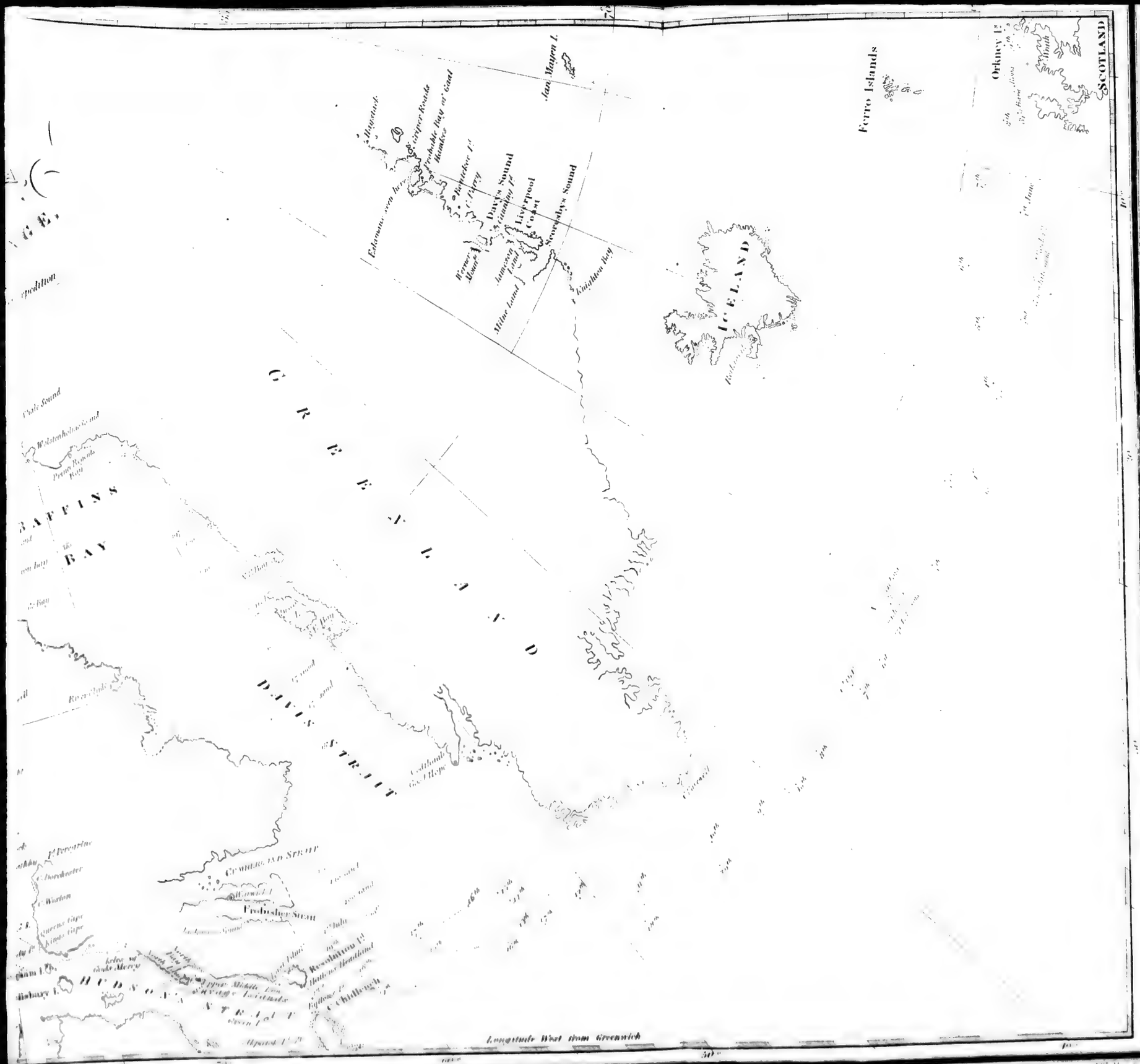
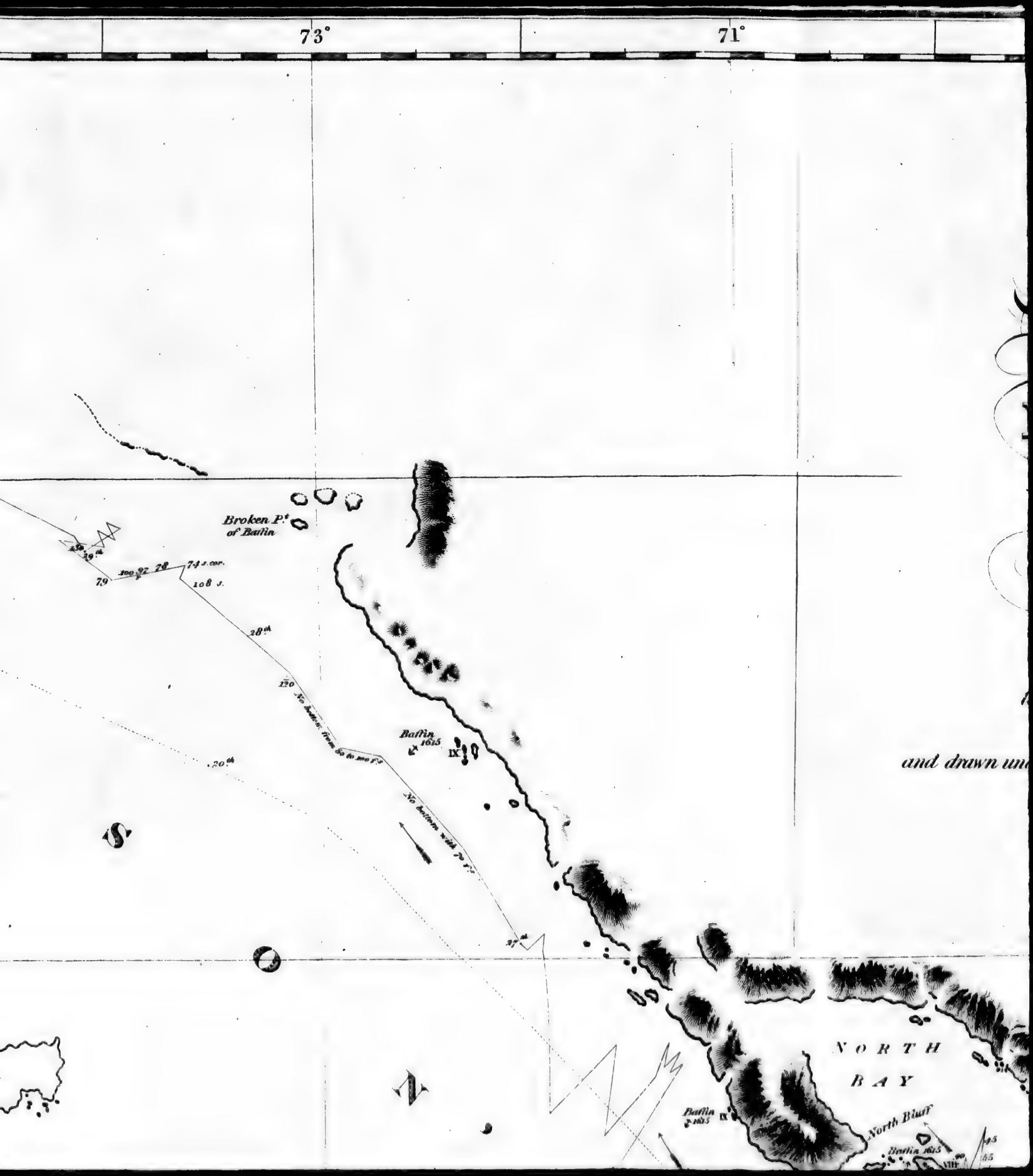
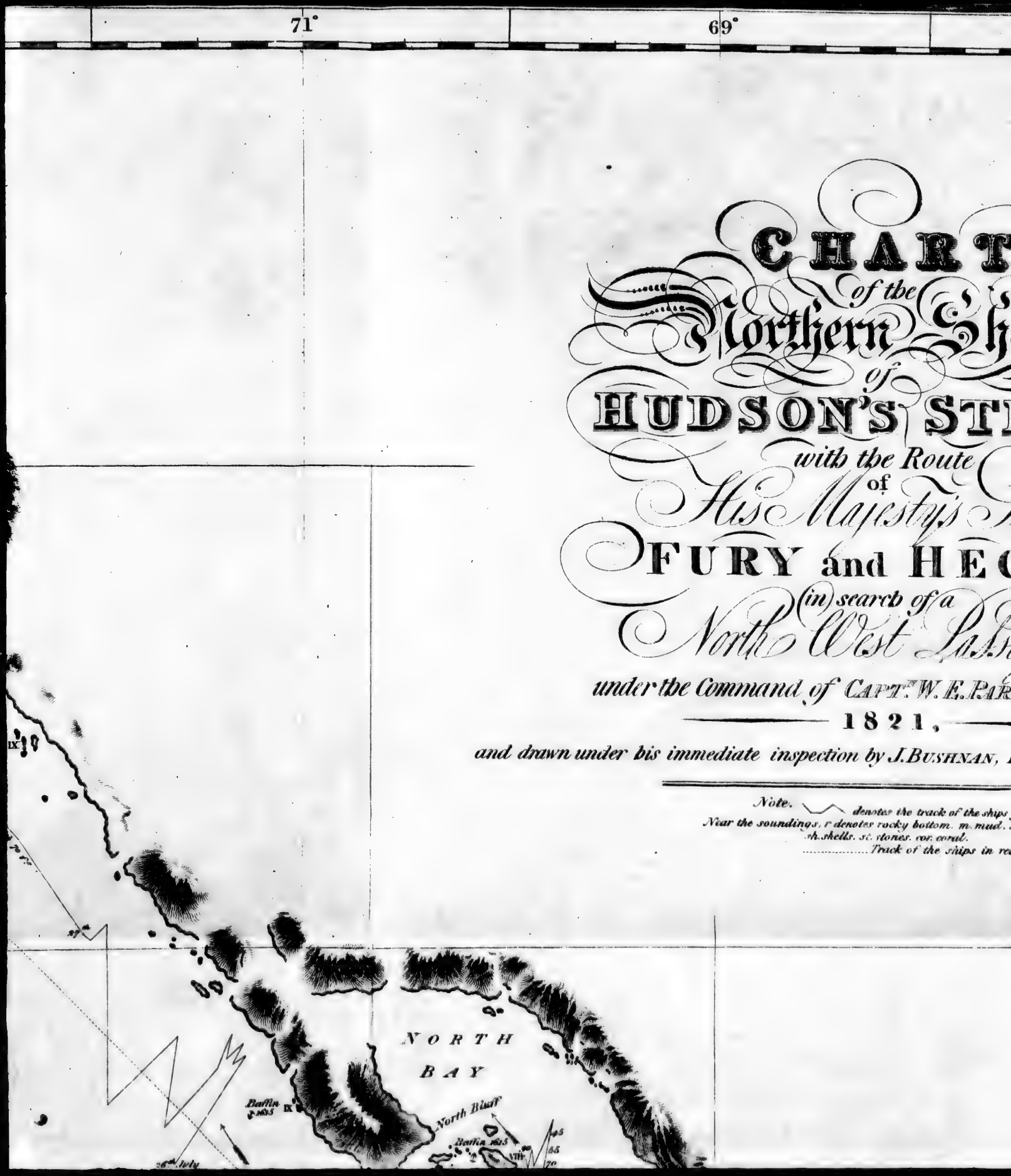


Jan Mayen I.
Ferro Islands
Orkney Is.
SCOTLAND
Hagstack
Griper Roads
Probable Bay or Gaat Hamlets
Eskamaus seen here
Davys Sound
Liverpool Coast
Scoresbys Sound
Knighton Bay
Milne Land
ICELAND
GREENLAND
Thule Sound
Wolstenholme Sound
Prince Regents Bay
BAFFINS BAY
DAVIS STRAIT
Cumberland Strait
Frobisher Strait
Resolution Is.
Hudson's Strait
Longitude West from Greenwich

77°
75°
Queen's Cape (of Fox)
Cape ? (of Fox)
Trinity Is (of Fox)
Eskimaux
Eskimaux
NOTTINGHAM Is
SALISBURY Is
H
U
D
S
Charles Island
64°
63°
45
30
15
45
30
15
45
19th
Aug. 1st
95
40 s
58
94 sh.
55
25 m. sh.
31st
42 m
121
150
100 m
109
83 m
84
112 m
70
45
59
30th
45 green m & sh.
55 m & sh.
68 green m.
75
79
100
97


73°
71°
Broken P.t of Baffin
29th
79
100 97 78
74 s. cor.
108 s.
28th
120
No bottom from 80 to 100 f.s
Baffin 1615
IX
20th
No bottom with 70 f.s
27th
and drawn un
NORTH BAY
North Bluff
Baffin 1615
IX
Baffin 1615
VIII


71°
69°
CHART
of the
Northern Sh
of
HUDSON'S ST
with the Route
of
His Majesty's
FURY and HE
(in) search of a
North West Pa
under the Command of CAPT.N W. E. PAR
1821,
and drawn under his immediate inspection by J. BUSHNAN,
Note.
denotes the track of the ships
Near the soundings, r denotes rocky bottom. m. mud.
sh. shells. st. stones. cor. coral.
Track of the ships in re
NORTH
BAY
North Bluff
Baffin 1615
IX
VIII
26th July

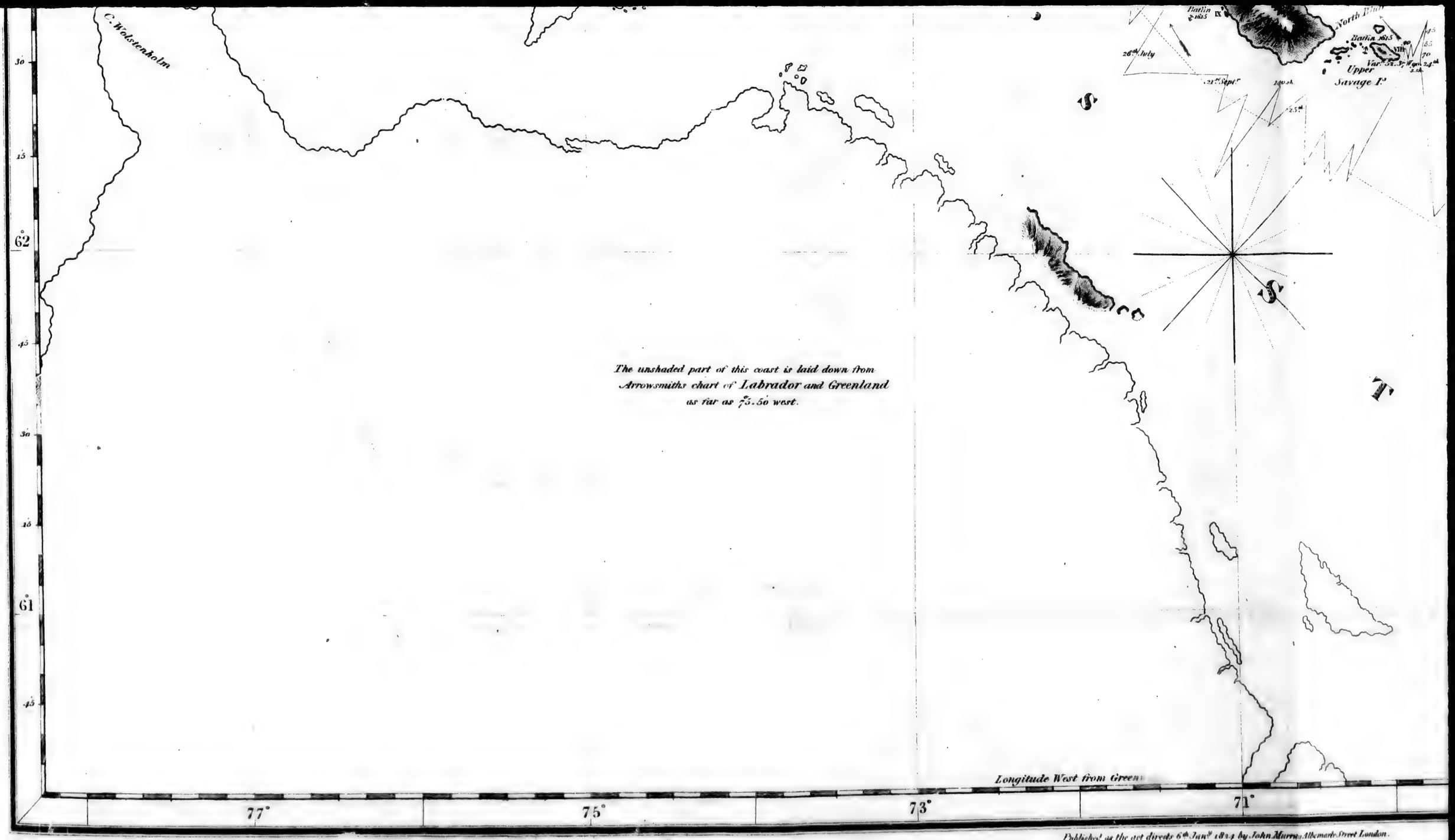
67° 65°

HART
of the
rn Shore
of
I'S STRAIT,
the Route
of
ajesty's Ships
nd HECLA,
earch of a
West Passage,
CAPT.N W. E. PARRY, in the Year
1821,

n by J. BUSHNAN, R.N. Mid.n and Assistant Surveyor.

denotes the track of the ships going out
notes rocky bottom. m. mud. s. sand.
s. st. stones. cor. coral.
.....Track of the ships in returning.

45
30
15
64°
45
30
15
63°
45



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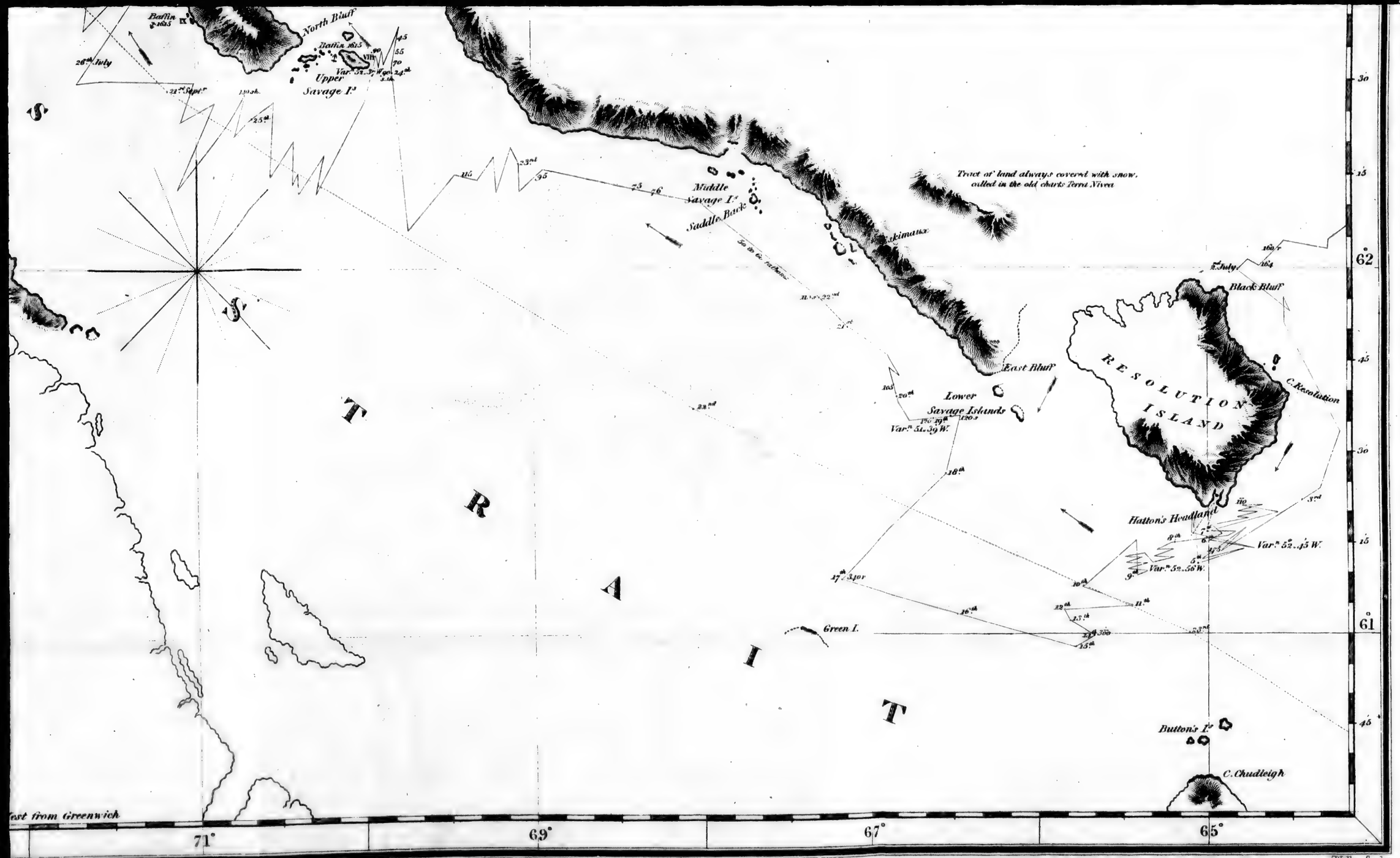

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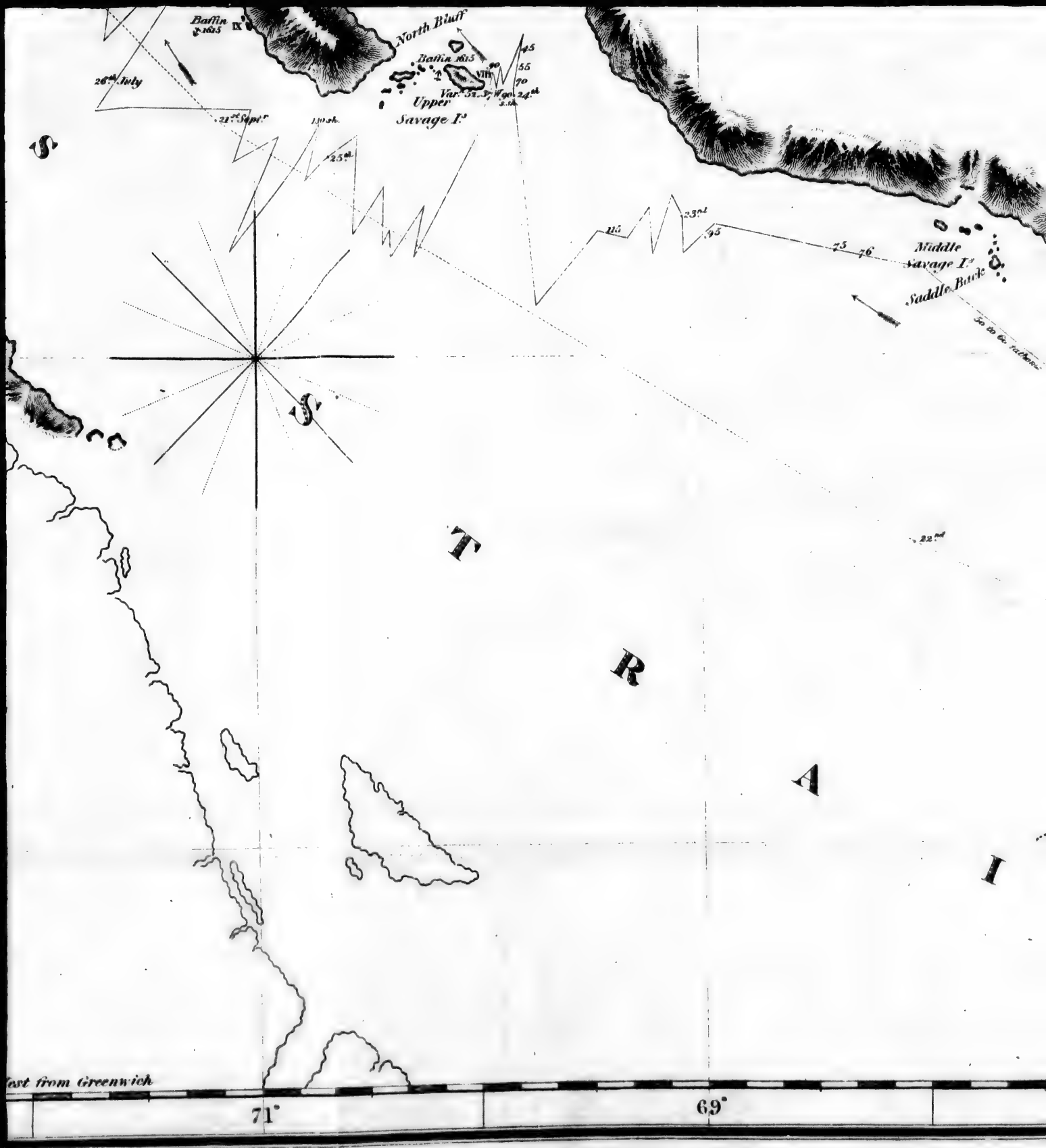
J. Walker Sculpt.



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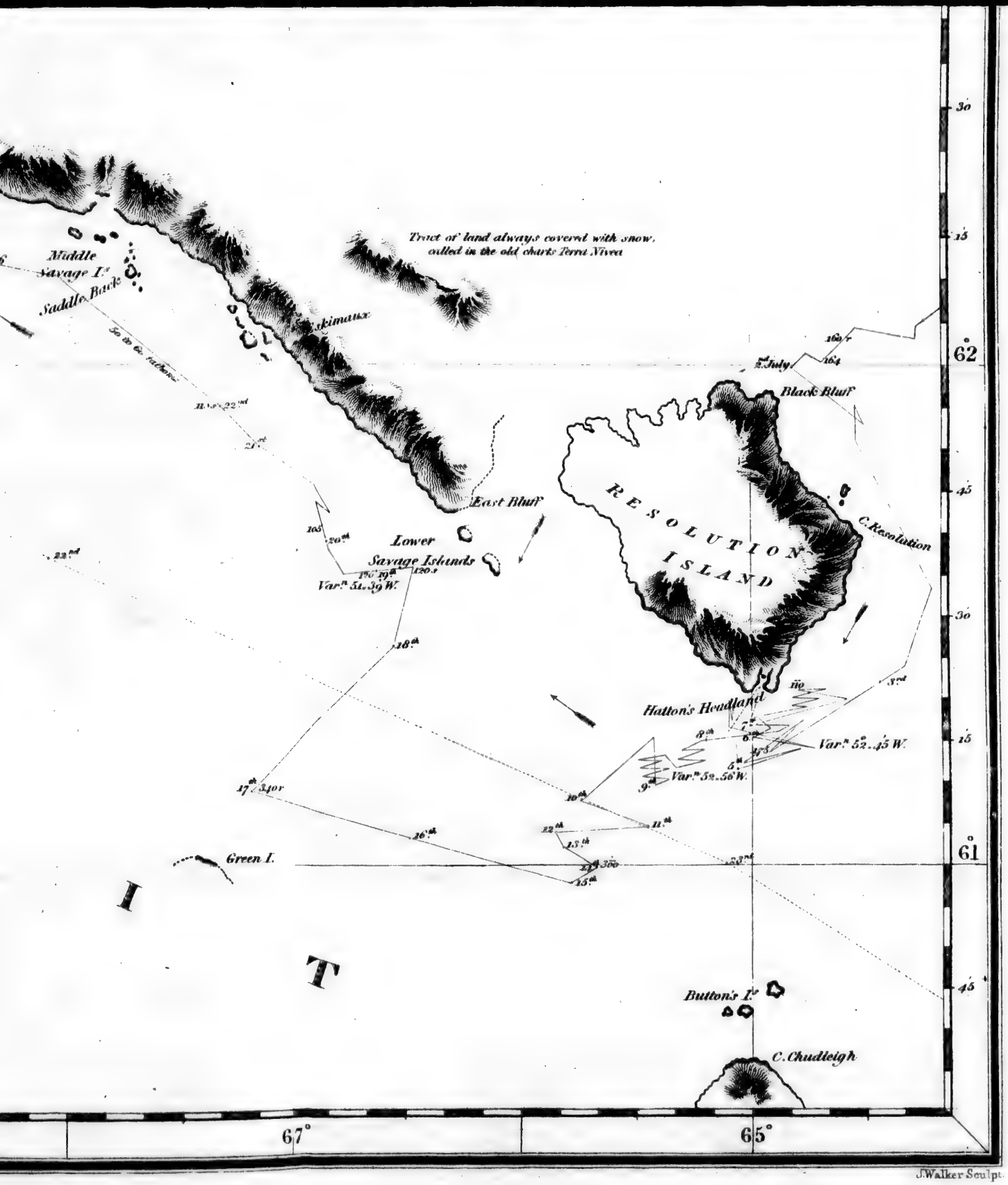
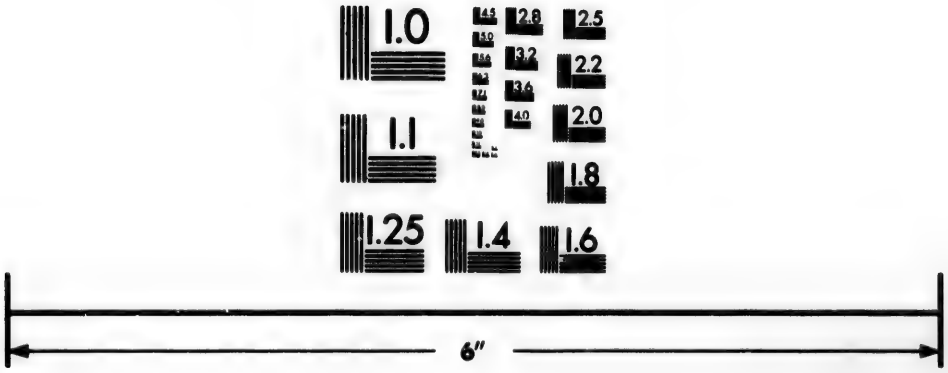


J. Walker Sculpt.

IMAGE EVALUATION
TEST TARGET (MT-3)



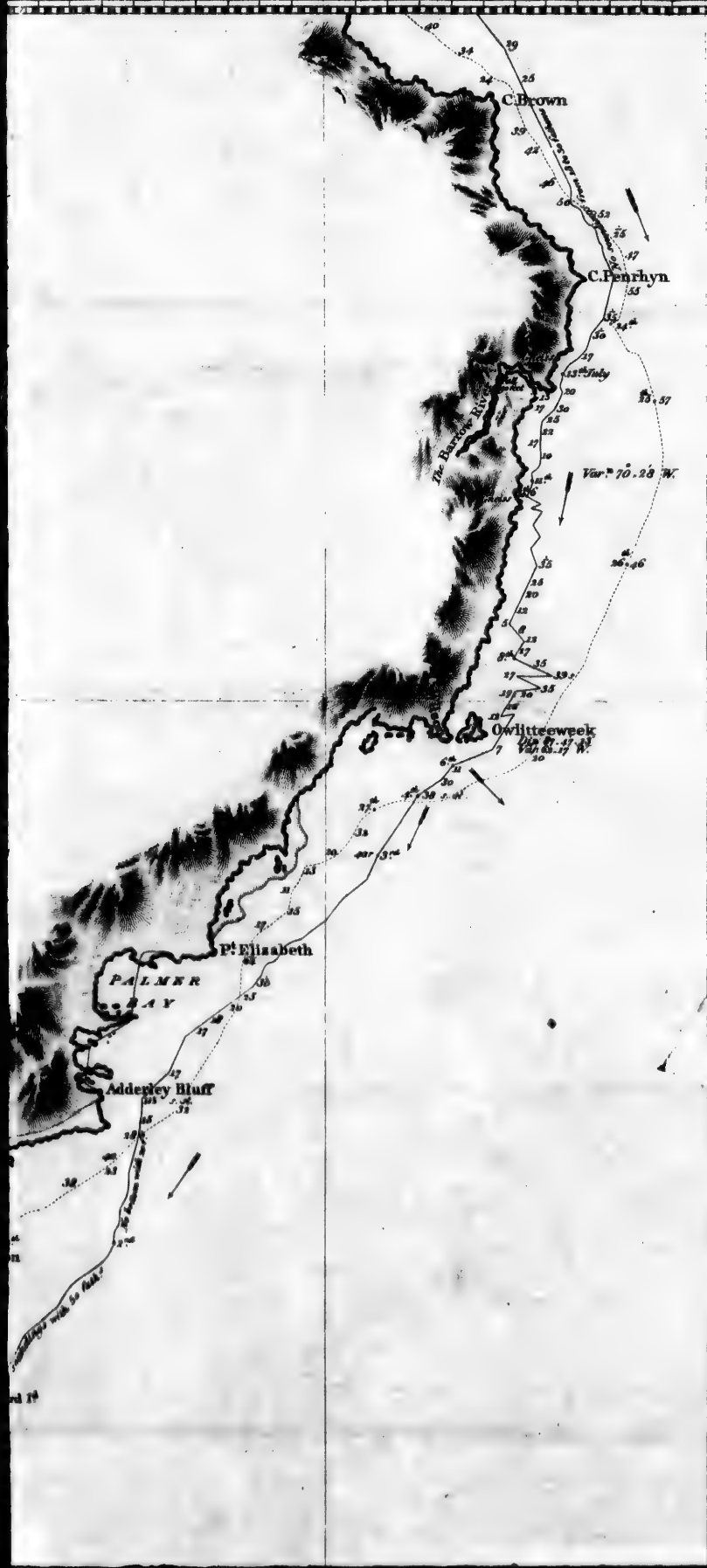
Photographic
Sciences
Corporation

33 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

2.8
2.5
3.2
2.2
3.6
2.0
4.0
1.8
1.0

PART OF
MELVILL
PENIN
ROSS BAY
Gneiss
Haviland Bay
REPULSE BAY
(of Middleton)
Gibson
Beach Pt of Middleton
GORE BAY
Bay of Shoals
C. Martinez

84°
83°
82°
81°
L L E
U L A
C. Brown
C. Penrhyn
The Barlow River
Var.n 70.28 W.
Owlitteeweek
Pt. Elizabeth
PALMER BAY
Adderley Bluff
BLAKE BAY
Turton Shoals
Pt. Belford
Crawford Id.
C. Fisher
C. Martineau
Bay
Shoals
and dra



CHAR

of a part of the

North Eastern

OF

AMERI

and its adjacent

shewing the

TRACK AND DISC

OF

His Majesty's

FURY AND H

in search of

NORTH WEST

under the Command of CAPT.n W.E

1821. 1822.

and drawn under his immediate inspection by J. BUSHN

Track of the ships in going out
" " Boats
" " Walking or Sledge parties
Land seen by the Expedition
" laid down from other authorities
Track of the ships in returning

Near

CHART

of a part of the

h Eastern Coast,

OF

MERICA,

s adjacent Islands

shewing the

AND DISCOVERIES

OF

s Majesty's Ships

RY AND HECLA,

in search of a

H WEST PASSAGE,

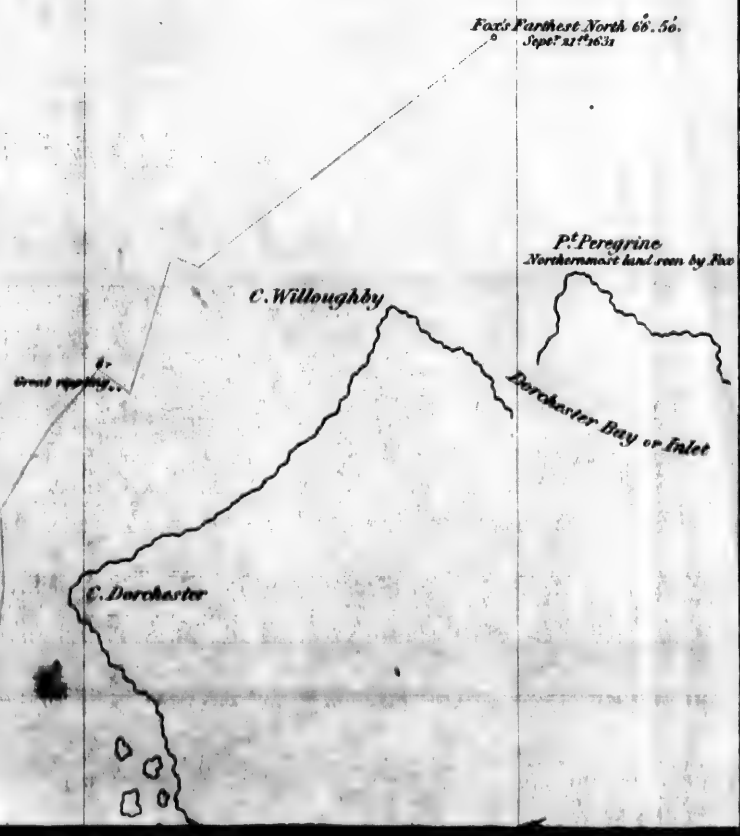
mand of CAPT.N W.E. PARRY in the years

1821. 1822. 1823.

e inspection by J. BUSHNAN, R.N. Mid.n and Assistant Surveyor.

in going out
g or Sledge parties
Expedition
m other authorities
in returning

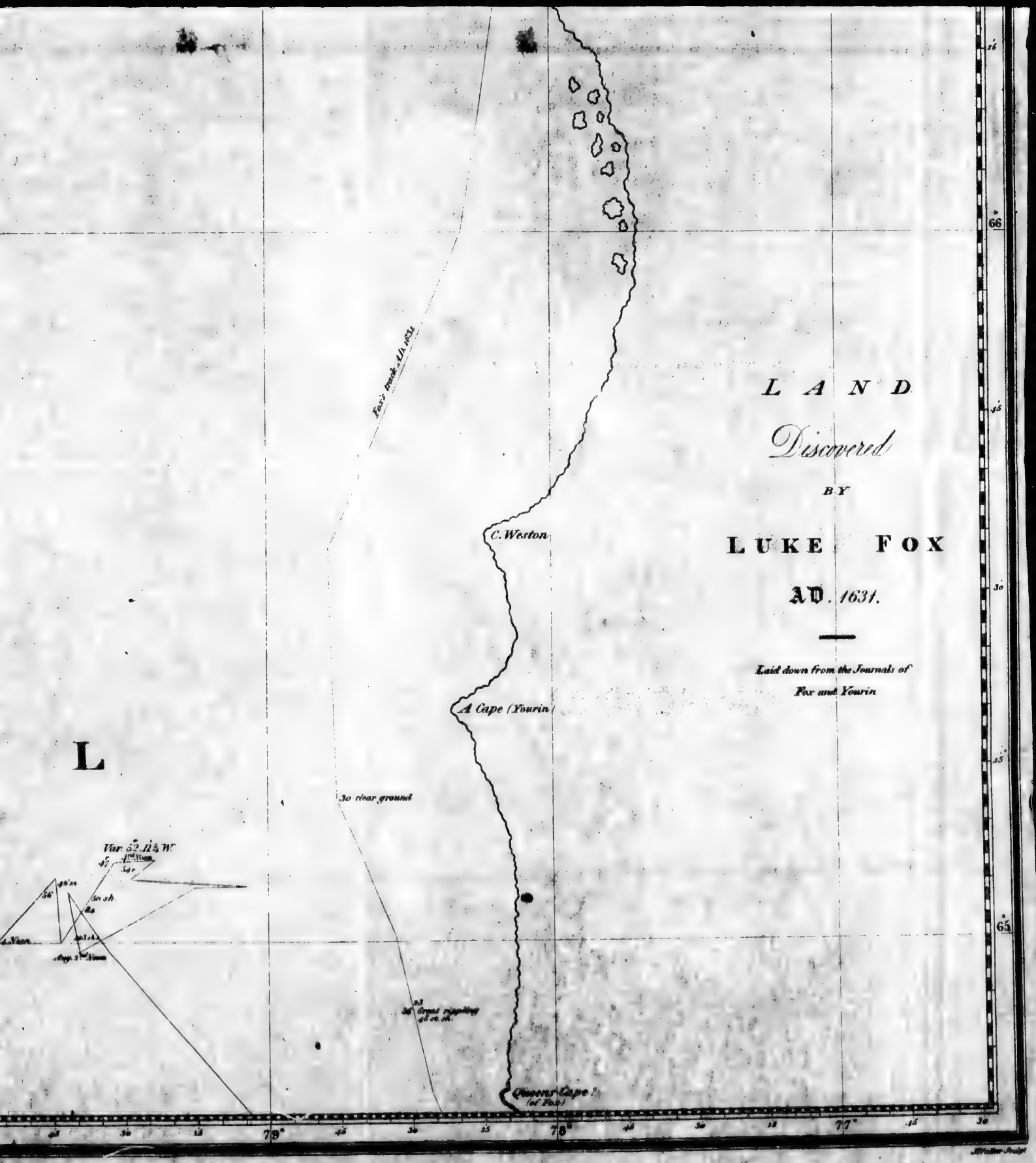
Near the soundings, r denotes rocky bottom
m. mud
s. sand
sh. shells
st. stones
cl. coral

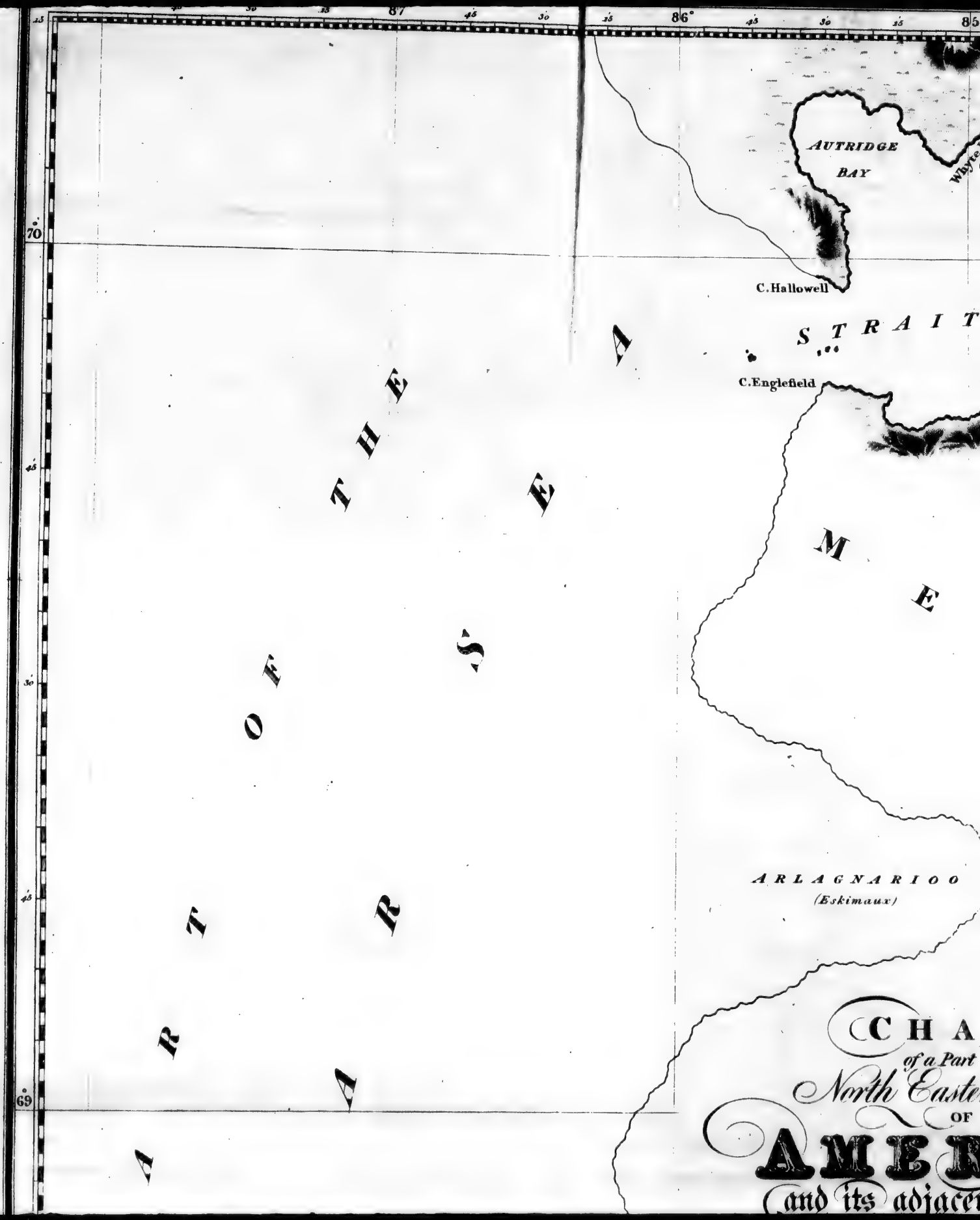


C. Hope
Beach Pt. of Middleton
C. Frigid ? of Middleton
Passage Is.
FROZEN STRAIT of Middleton
C. Martin
Georgina L.
Reuse L.
Pt. Henderson
C. Deas Thomson
Nias Is.
DUKE of YORK BAY
Disintegrated Limestone
C. Bylot
Entrance of the Wager River
SIR THOS. ROWE'S WELCOME
SOUTHAMPTON ISLAND
Shingly beach like that of Dangerous (according to Middleton) extending nearly to Cape Frigid
66°
65°
87°
85°
84°

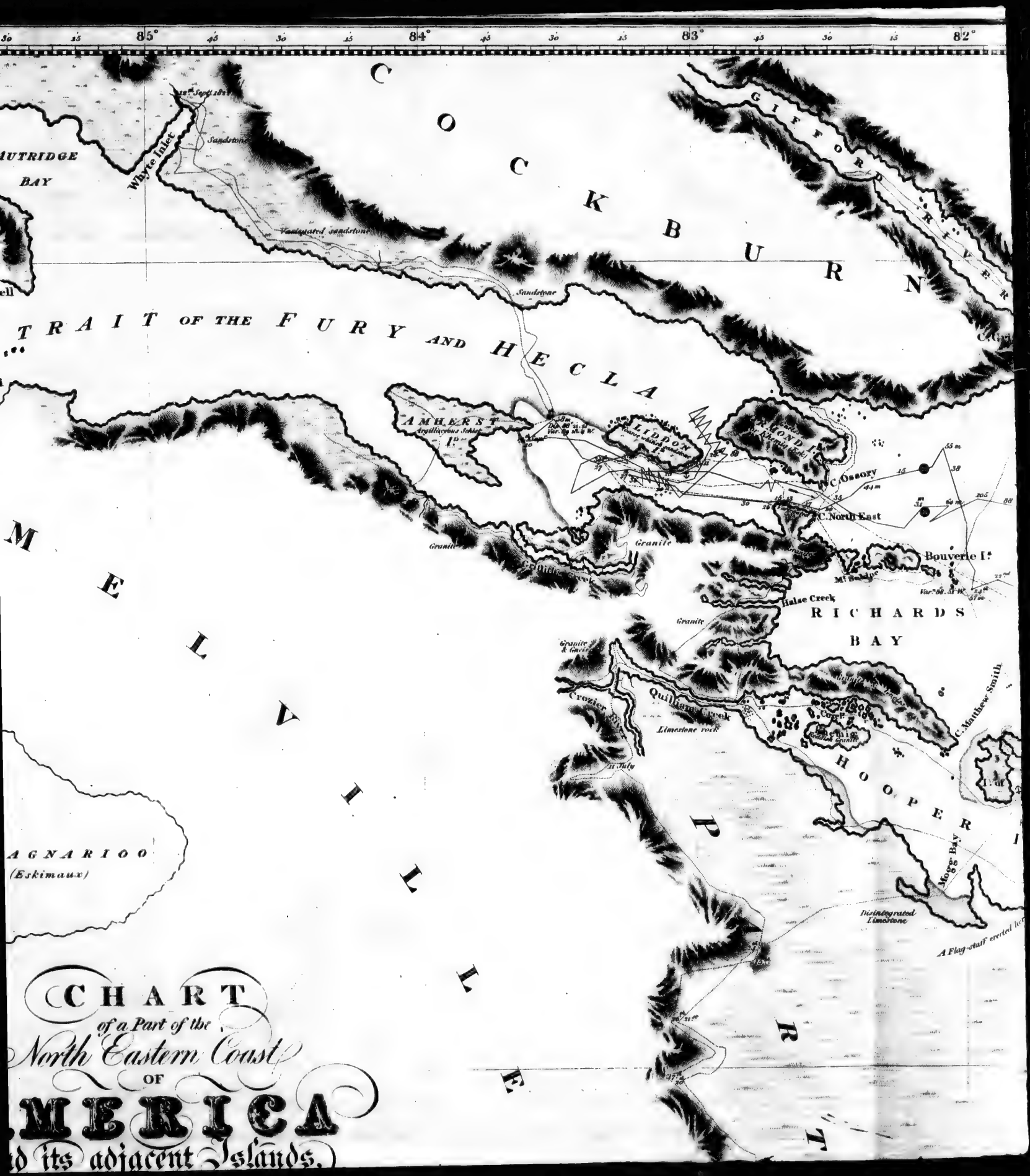
C. Martineau
C. Fisher
STURGES BOURNE I.
C. Bylot
C. Comfort of Baffin
Fife Rock
F O
C H A N N
T O
D N
Long.e West from Greenwich
84°
83°
82°
81°

F O X
C H A N N E L
Var. 55. 05¾ W.
Fife Rock
Var. 52. 11¾ W.
Long.e West from Greenwich
82°
81°
80°


LAND
Discovered
BY
LUKE FOX
AD. 1631.
Laid down from the Journals of
Fox and Yourin
Fox's track AD. 1631
C. Weston
A Cape (Yourin)
30 clear ground
Queens Cape ?
(of Fox)
L
Var. 52° 11¾ W.
66°
65°
79°
78°
77°

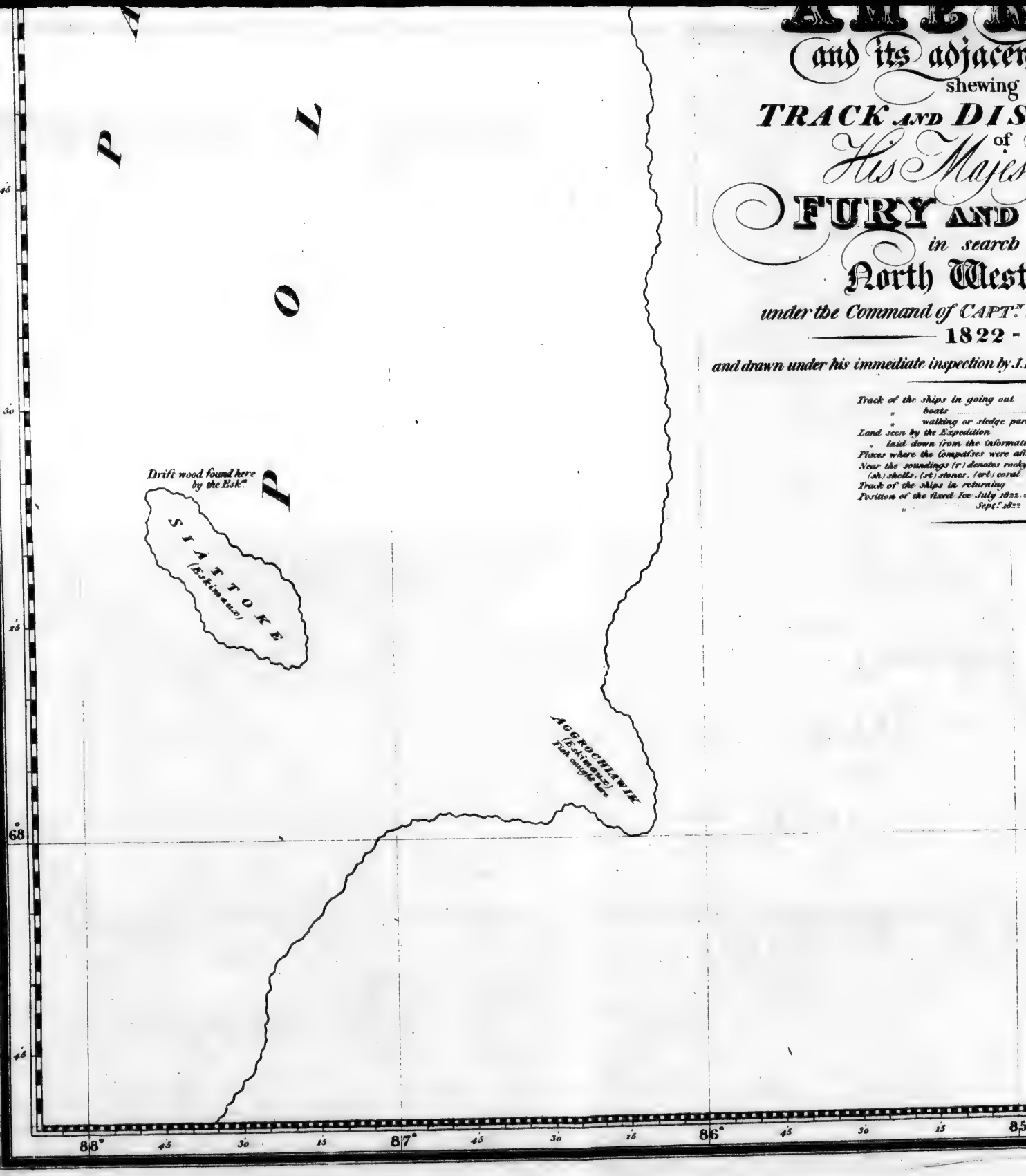


87
86°
85
70°
69°
AUTRIDGE
BAY
C.Hallowell
STRAIT
C.Englefield
ARTOF THE SEA
ARLAGNARIOO
(Eskimaux)
CHA
of a Part
North Easte
OF
AMER
and its adjacen


85°
84°
83°
82°
COCKBURN
GIFFORD RIVER
AUTRIDGE BAY
Whyte Inlet
Sandstone
Vaciquated sandstone
Sandstone
TRAIT OF THE FURY AND HECLA
AMHERST I.
Argillaceous Schist
LIDDON
C. Ossory
C. North East
Bouverie I.
Granite
Granite
Halse Creek
RICHARDS BAY
Granite
Granite & Gneiss
Crozier River
Quilliams Creek
Limestone rock
C. Matthew Smith
HOOPER I.
Mogg Bay
Disintegrated Limestone
A Flag-staff erected here
MELVILLE
PORT
AGNARIOO
(Eskimaux)
CHART
of a Part of the
North Eastern Coast
OF
MERICA
d its adjacent Islands.

82°
81°
GIFFORD RIVER
B U R N
I S L
MURRAY MAXWELL INLET
C. Ossory
C. North East
Bouverie I.
Mt Sabine
Halse Creek
RICHARDS BAY
Granite
Quilliam Creek
Limestone rock
C. Matthew Smith
HOOPER INLET
Mogg Bay
Disintegrated Limestone
Arlagnuk
Disintegrated limestone
A Flag-staff erected here
Pingitkalik
Disintegrated limestone
Whales
Tern I.
I. of Ooglit

81°
80°
79°
70°
69°
S L A N D
MURRAY MAXWELL
INLET
SKEOCH
BAY
C.Elwyn
C.Konig
Tern I.
Calthorpe
I.
Whales
I. of Ooglit



AMPN
and its adjacen
shewing
TRACK AND DIS
of
His Majes
FURY AND
in search
North West
under the Command of CAPT.N
1822 -
and drawn under his immediate inspection by J.
Track of the ships in going out
" boats
" walking or sledge par
Land seen by the Expedition
" laid down from the informati
Places where the Compasses were aff
Near the soundings (r) denotes rocky
(sh) shells, (st) stones, (crl) coral
Track of the ships in returning
Position of the fixed Ice July 1822.
" Sept.r 1822
P A
P O L
Drift wood found here by the Esk.
SIATTOKE (Eskimaux)
AGGROCHIAWIK (Eskimaux) Fish caught here
45
30
15
68
45
88°
45
30
15
87°
45
30
15
86°
45
30
15
85

MERICA
d its adjacent Islands,
shewing the
CK AND DISCOVERIES
of
His Majesty's Ships
URY AND HECLA,
in search of a
North West Passage
Command of CAPT.N W. E. PARRY, in the Years
1822 - 23.
immediate inspection by J. BUSHNAN, R.N. Mid.n and Assist.t Surveyor.
Track of the ships in going out
" boats
" walking or sledge parties
Land seen by the Expedition
" laid down from the information of Eskimaux
Places where the Compasses were affected
Near the soundings (r) denotes rocky bottom, (m) mud, (s) sand, (sh) shells, (st) stones, (crl) coral and - no bottom
Track of the ships in returning
Position of the fixed Ice July 1822, and Aug.t 1823
" Sept.r 1822
PENINSULA
AMITIOKE
Disintegrated Limestone?
Walruses
Longitude West from Greenwich.
85°
84°
83°
82°
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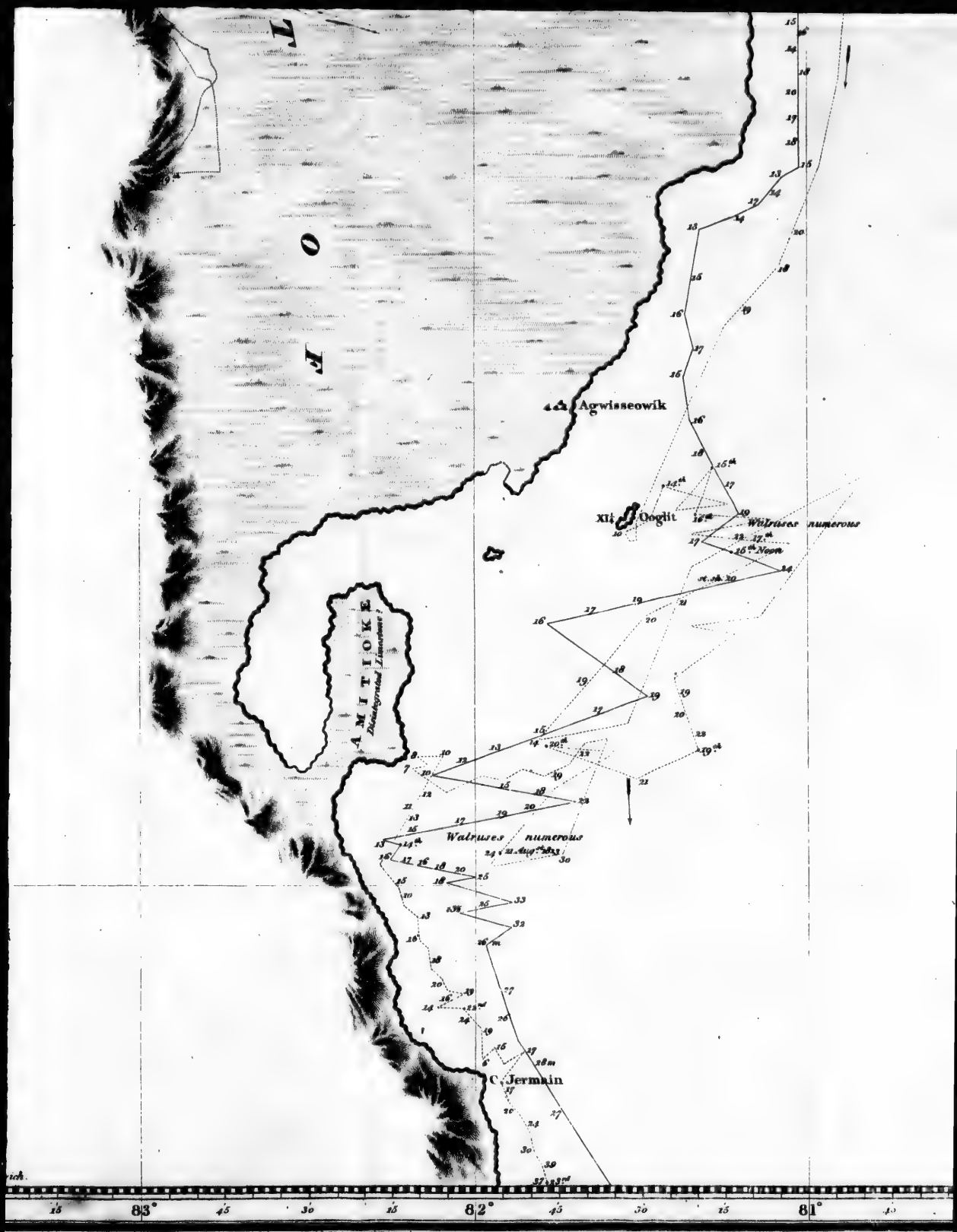
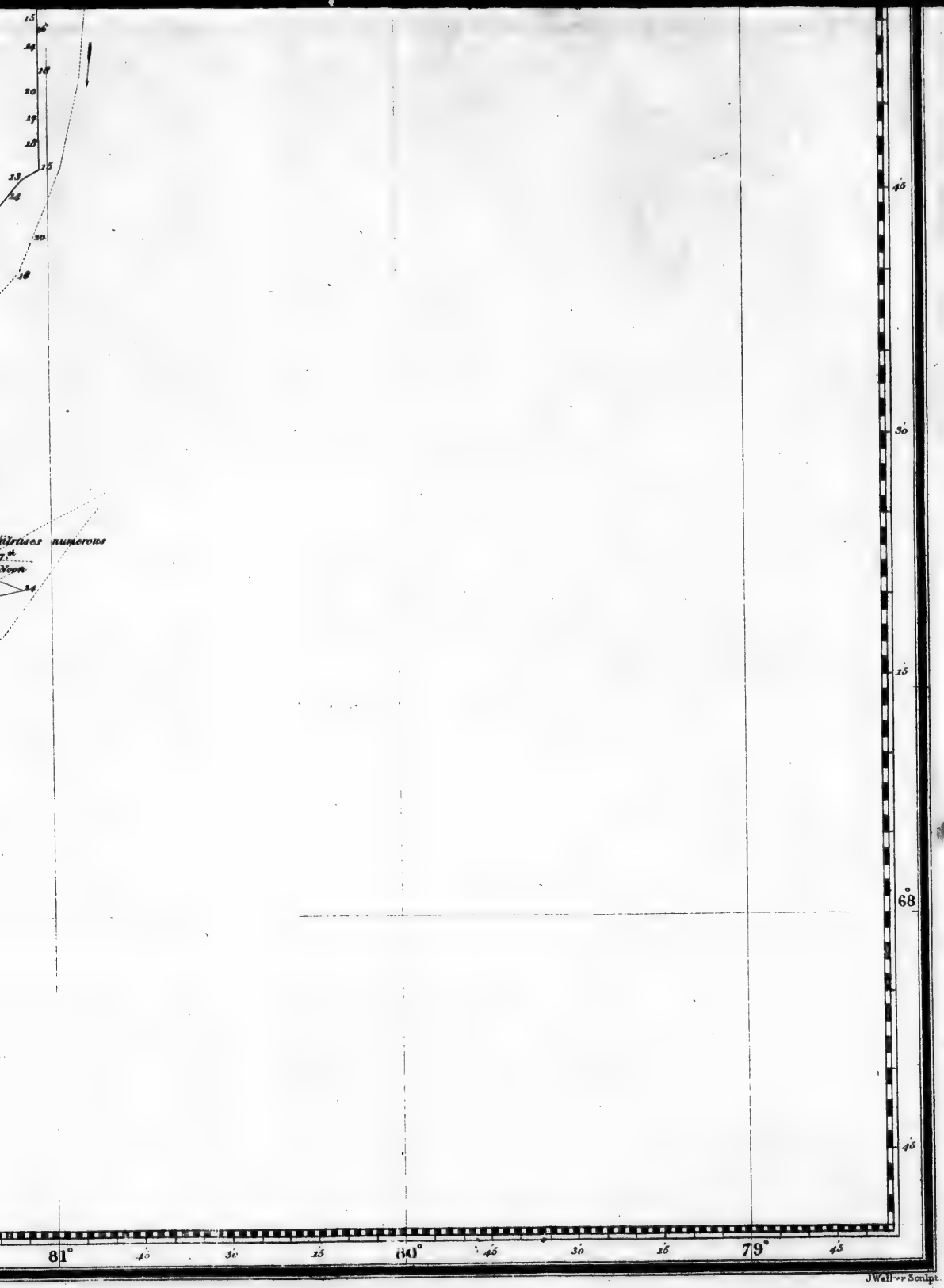


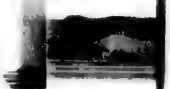
24 by John Murray, Albemarle Street London.



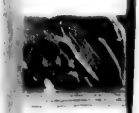
J Walter Sculpt.

N.32 W.

North Bluff



sailing along

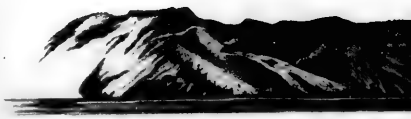


S. Long. 76° 3

nden

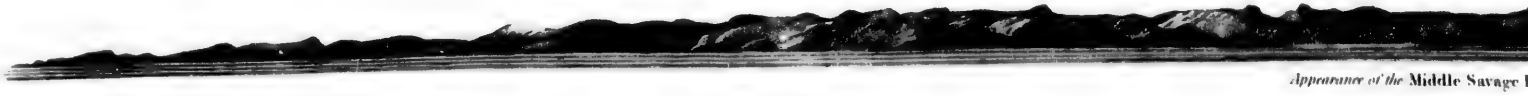
N.43.W

Cape Resolution *11 miles distant.*



N.65.E

East Bluff *and* Lower Savage Island.



Appearance of the Middle Savage I

N.30.W

Northern Shore *of* Hudson Strai

Appearance of the North Shore of Hudson Strait *Lat. 63° 40' N. Lon. 78° 30' W.*
distant 4 or 5 leaf.

Published as the act directs Jan.y 1824 by John Murray Al

North Bluff *and the largest of the* Upper Savage Islands.

uff *and* Lower Savage Island.

Appearance of the Middle Savage Islands *when sailing along shore.*

Northern Shore *of* Hudson Strait *Lat. 64°15' N. Long. 76°30' W.*

Salisbury Island

J. Walter sculp.

...ished as the act directs Jan.y 1824 by John Murray Albemarle Street London

orth Shore *at the entrance to* Duk

J Bu

Cape Welsford S.37°W. *Entrance to* Duke *of* York Bay. S.51°W. N

S.13°W.7 miles. Nias Islands Cape Deas Thomson, S.70°W.6 miles.

Nias Islands

View of the entrance to Duke *of* York B

View of the Northern part of Southampton Island *taken from the* Frozen Strait *near Passage Island.*

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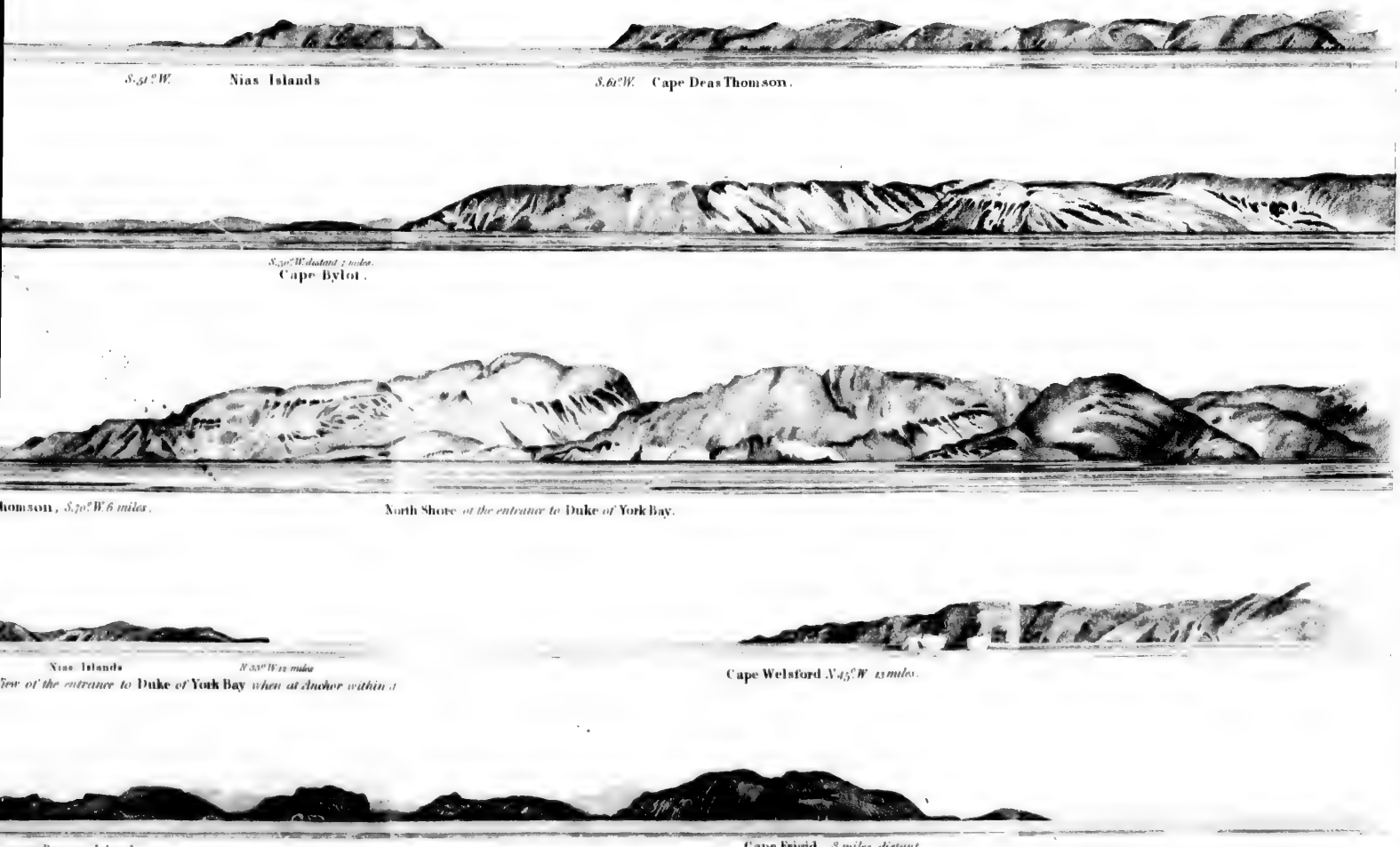

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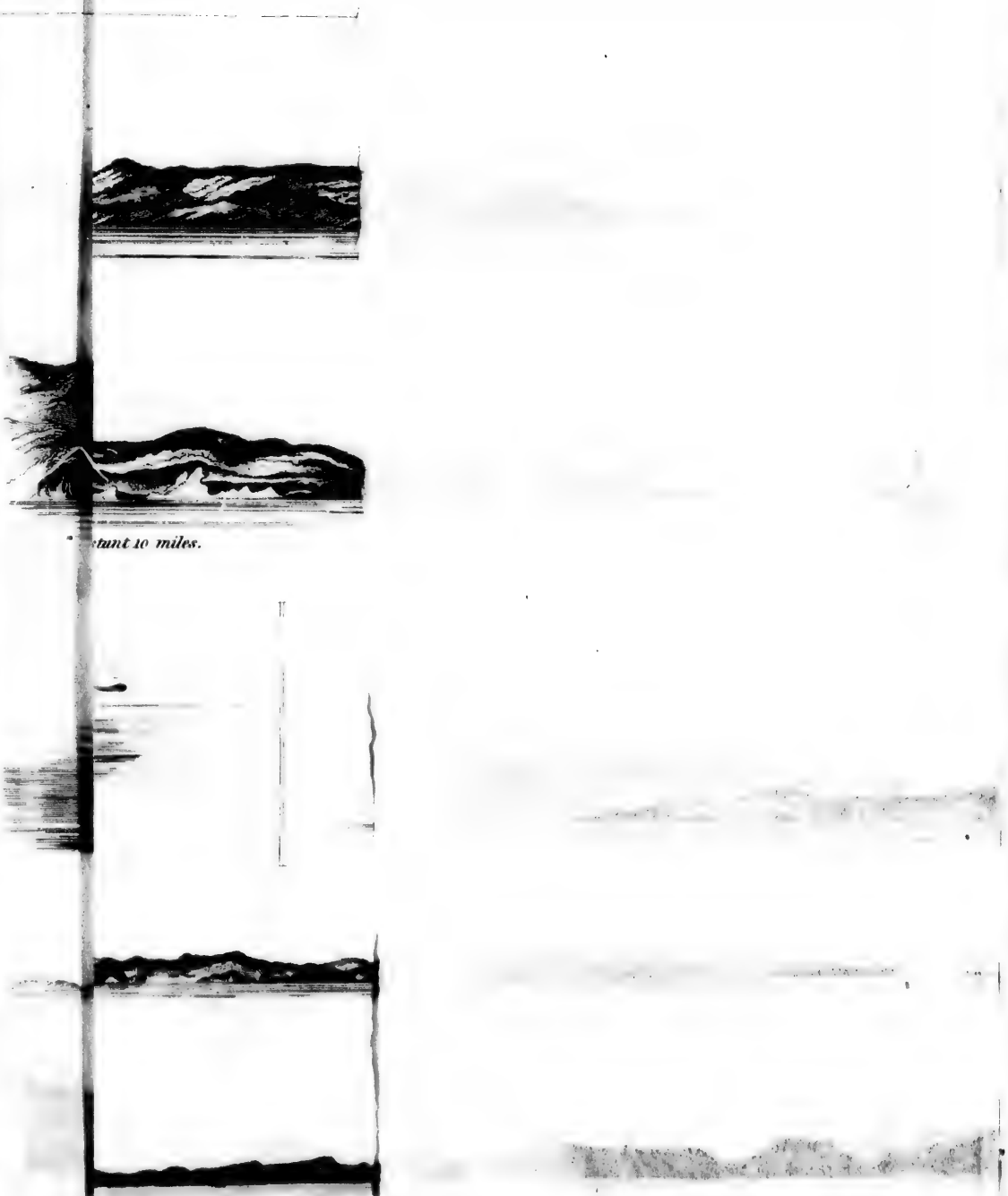


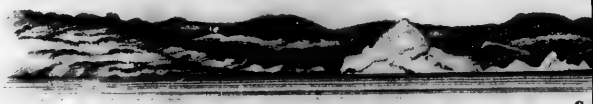
stant 10 miles.

L.Hush[illegible]la. Mount Sabine *bearing S.30.° E.*

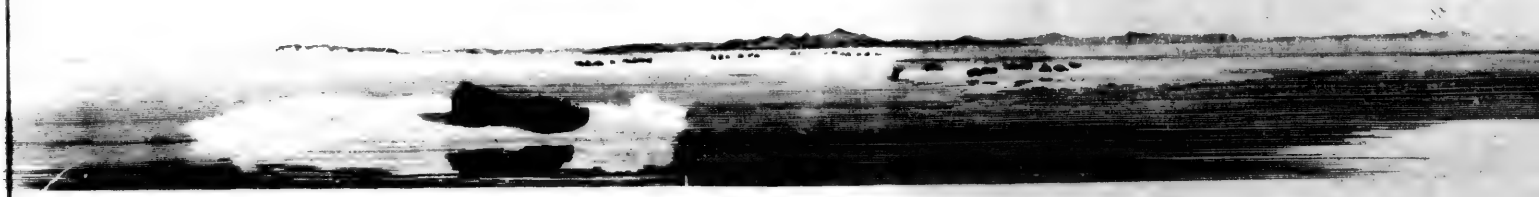
Cape Wilson *N.18° W. distant 2 miles.*

Island *of* O

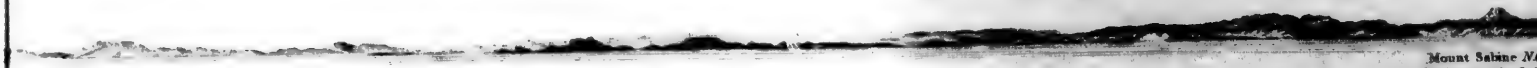
Remarkable Hill at the entrance of Culgruff Creek.



Ca



The Islands *of* Ooglit *N.7° W. 2 miles by G. F. Lyon.*



Mount Sabine *N*

The Bouverie Isl

J. Bushnan del.

Yellow I.d S.64° E. 10 miles.

The Bouverie Islands.

View of the South Shore *of the entrance to the* Strait *of*

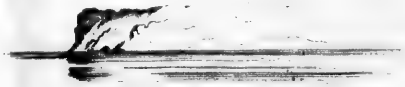
Published as the act directs Jan.y 1819 by John Murray Alb

N. 43°. E.

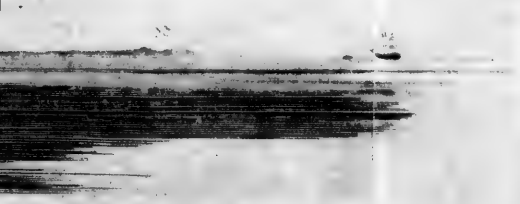
Island of Owlitteeweek

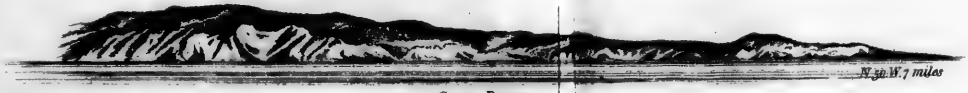
N. 6°. E.

Cape Penrhyn distant 10 miles.



North Cape of the entrance to Barrow River
S. 3°. W. distant 1½ mile





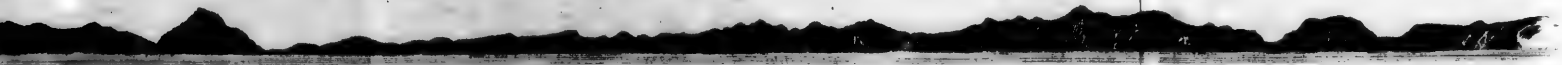
N. 30. W. 7 miles

Cape Brown

Mount Sabine N. 87. W.
The Bouverie Islands

N. 48°. W.

Yellow I. N. 40°. W.

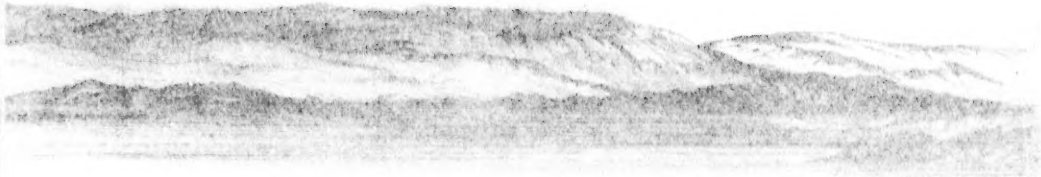


Shore of the entrance to the Strait of the Fury and Hecla. Mount Sabine bearing S. 30°. E. 3 or 6 miles distant.

Isthmus

J. Walker sculp.

as the act directs Sept. 1819 by John Murray, Albemarle Street London.



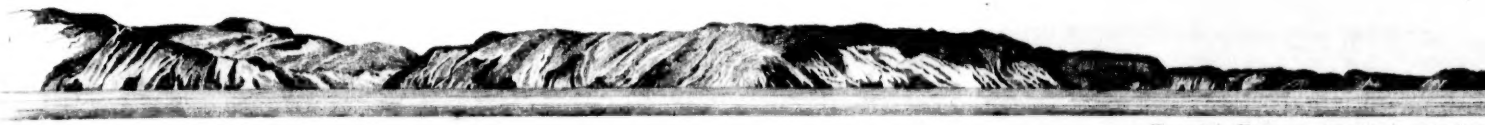
Cape North East *East 6 miles*

Cape Hallowell *S.49°.W.14 miles*

J.Walker sculp.

Cape North east

Appearance of the **Strait** *of the* **Fury** *and* **He**



View of the **Narrows** *of the* **Strait** *of the* **Fury**

S. 30° W. 50 miles

View of the **Western** *entrance*

S. n° E. 3 or 4 Leagues

Appearance of a part of **Southa**

J. Bushnan del.

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Cape North east Liddon Island

ew of the **Strait** *of the* **Fury** *and* **Heela** *when entering the* **Narrows** *from the Eastward.*

e **Narrows** *of the* **Strait** *of the* **Fury** *and* **Heela**, *taken from the Westward.*

Cape North East *East 6 miles*

Cape Hallowell *S.49°.W.14 miles*

View of the **Western** *entrance of the* **Strait** *of the* **Fury** *and* **Heela**, *taken from Whyte Inlet.*

S.by E.3 or 4 Leagues

Appearance of a part of **Southampton Island**, *taken from Fife Rock.*

J. Walker sculp.

ed as the act directs Jan.y 1819 by John Murray Albemarle Street London.